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# Report of the Royal Commission on the Status of Pensions in Ontario

VOLUME VIII

## Background Studies and Papers

1980

# **Report of the Royal Commission on the Status of Pensions in Ontario**

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# Report of the Royal Commission on the Status of Pensions in Ontario

VOLUME VIII

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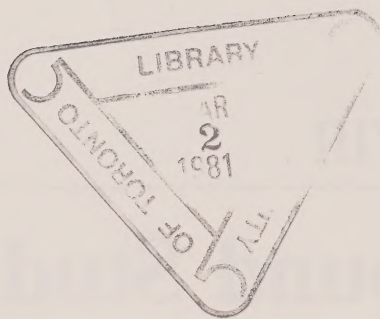
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Report of the  
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VOLUME VI  
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## Background Studies and Papers

### Volume VIII

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## Foreword

Volumes VIII and IX contain background studies and papers of the Commission. Most of these papers constitute new research or original work done for the Commission. Selected research material relating to the Canada Pension Plan and the public sector in Ontario has been included in Volumes VI and VII.

Volume VIII contains a market survey by Southam Marketing Research Services, the "Consumer Survey," which is the first study of attitudes of the population in Ontario towards retirement arrangements. This survey may be compared to the recent American survey of attitudes commissioned by Johnson and Higgins and conducted by Louis Harris and Associates, Inc., entitled 1979 Study of American Attitudes Toward Pensions and Retirement (New York).

The statistical probability paper on vesting by Professors Izzet Sahin and Yves Balcer breaks new ground and produces interesting results. The study of coverage by Harry Weitz is a comprehensive review of this issue; and his paper on RRSPs is the first major work of its kind.

Volume IX contains papers by a sociologist, Dr. Daniel Kubat, and by an economist, Dr. Arthur Donner, both of whom were retained by the Commission.

All original research data and papers have been filed with the Archivist of Ontario and are available to the public. In addition, certain staff background papers not reproduced in this report have been filed with the Archivist. All major work of consultants retained by the Commission is reproduced in this report. The only exceptions are the complete CPP computer print-outs which were edited for publication to reduce the quantity of data; the originals are filed with the Archivist.

## List of Briefs

The Royal Commission on the Status of Pensions in Ontario received representations from many individuals and organizations throughout the province. Some of them appeared at our hearings and submitted briefs; others (\*) forwarded written briefs to us; and a few (+) made oral presentations at the hearings and thus no brief number appears with their names. All of the 391 briefs and the tapes of the proceedings have been deposited in the Archives of Ontario.

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# **A Survey of the Awareness and Attitudes of Ontario Residents towards Retirement Programs and Particularly Pension Plans**

## **Southam Marketing Research Services**

**December 1978**

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## A Survey of the Awareness and Attitudes of Ontario Residents towards Retirement Programs and Particularly Pension Plans

The Royal Commission on the Status of Pensions in Ontario, in addition to holding formal public hearings where interested parties had the opportunity to present their briefs, wished to ascertain, by survey methods, the attitudes, awareness, knowledge, and habits of Ontario residents in regard to pensions and other sources of post-retirement income. To carry out such a survey of adult Ontario residents, the Commission engaged Southam Marketing Research Services, a division of Southam Business Publications Limited. The survey is the end result of a three-phase investigation, which consisted of an introductory exploration, completed in September 1977; a pilot test of question areas and sample design, completed in April 1978; and the major survey, designed to quantify and validate preliminary findings, completed in December 1978.

Because the results from the first two phases were preliminary, this report presents a summary of the major findings of the major study only. Every effort has been made to extract, analyze, and comment upon the significant findings of the research. The complete study is available for consultation in the Archives of Ontario where the papers of the Commission have been deposited.

### METHODOLOGY

The final questionnaire was developed from the information gathered in the first two phases of the research and from a number of lengthy discussions with the Commission (see Appendix A for sample questionnaire). It was designed to explore in detail the respondents' knowledge of and attitudes towards both government and private pension plans. Pertinent data were also collected about each respondent's work history and personal experience with pension plans. In order to facilitate the accurate collection of data, cards containing a written description or definition were designed for the interviewer to hand the respondent while asking each complex question (see Appendix B). In this way respondent confusion was kept to a minimum.

The Commission agreed with us that the results of this study should be applicable to the population of the province as a whole and should be accurate within at least plus or minus 2.6 percentage points at the 90 per cent confidence level (see Appendix C). Thus a multi-stage stratified random sample of 1,000 adults 18 years of age and over was selected to participate in the survey. The sample was selected in the following manner (see Appendix D for sample design):



- In order to ensure a representative distribution of the sample, the province was divided into six economic regions - Eastern Ontario, Metro Toronto, Central/Bruce, Hamilton peninsula, Southwest Ontario, and Northwest Ontario - and interviewing quotas were assigned to each of these regions in proportion to the population 18 years of age and over.
- Previous research indicated that the size of the community in which respondents reside has a bearing on the amount of post-retirement income they perceive they will need. So that the sample would be as bias-free as possible, within each economic region, quotas were assigned in proportion to the population 18 and over by city size groupings:

Stratum 1	500,000 and over
Stratum 2	100,000 - 499,999
Stratum 3	30,000 - 99,999
Stratum 4	10,000 - 29,000
Stratum 5	1,000 - 9,999
Stratum 6	less than 1,000 (farm and rural non-farm)

- Therefore, in essence, the sample selected was proportional to the regional adult population and to city size within each region.
- Within each region cities and towns were listed by city size on the basis of the 1976 census and from this array municipalities in which interviewing was to take place were selected. Maps of the selected municipalities were obtained, and the boundaries of all residential census tracts in urban areas were transferred to the maps. In a similar manner the boundaries of enumeration areas were mapped for rural interviewing areas.
- All census tracts and enumeration areas were numbered, and a table of random numbers was used to select both census tracts and enumeration areas in which interviewing was to take place.
- Within each census tract or enumeration area, all blocks were numbered and, again using a table of random numbers, four - two primary and two secondary - interviewing blocks were selected. Secondary blocks were used only when the appropriate primary block failed to yield the required number of interviews.
- Detailed maps of the selected census tract or enumeration area were prepared for the interviewers. On each map primary and secondary blocks were indicated and colour coded. For each selected primary and secondary block, the starting position was marked as well as the direction the interviewer was to take in travelling door to door. It should be noted that starting points and the direction of travel were rotated from block to

block throughout the study in order to reduce bias, if any, to a minimum. For any one selected block, a total of eight starting points and travel directions were possible.

- Interviewers were instructed to obtain five completed interviews from each primary block selected.
- Once a household was contacted, the interviewer took a census of all household members 18 years of age and over. The Trohldahl-Carter Grid (see Appendix E) was used to select the individual to be interviewed in each chosen household. No other member of a selected household could be substituted. This method of sample selection effectively eliminates interviewer bias and produces as representative a final sample of the population as possible.
- In the cases where the selected respondent was not available at the time of original household contact, the interviewer was instructed to call back at least two more times before selecting another residence in which to interview.
- Subject to normal constraints of time and budget, such a sample will have characteristics that are very close to those of the population from which it was drawn. However, all personal interview, sample-based surveys conducted in-home by the private sector tend to under-represent the segment of the population living in apartment buildings because security doors, guards, doormen, and other restrictions make it almost impossible for interviewers with no official status to gain access to a building and canvass door-to-door as they would on a residential street.

Thorough briefings were held with the selected interviewers during which they familiarized themselves with the questionnaire, its administration, and sample selection procedures. During the actual conduct of the fieldwork between October 11 and October 31, 1978, head office field supervisory staff were in close contact with interviewers throughout the province.

Accurate records of all interviewing attempts that did not result in an interview were kept so that a disposition of the sample could be compiled (see Appendix F). The single most frequently mentioned reason for non-completion was that either nobody was at home after three calls or the specified respondent was out after three calls.

A total of 972 interviews were completed throughout the six economic regions as follows: Eastern Ontario, 139; Hamilton peninsula, 187; Metro Toronto, 262; Southwest Ontario, 114; Central/Bruce, 211; and Northwest Ontario 59.



When the fieldwork was done, completed interviews were returned to head office for editing, coding, and tabulation. Categories for open-ended responses were developed, and questionnaires were checked for completeness and adherence to skip patterns. All data were keypunched onto IBM data cards (100 per cent verified), the cards were machine edited and corrected, and the results were tabulated. The tabulation plan, developed in consultation with the Commission, consists in a series of economic, demographic, and occupational cross-tabulations of each question posed to each respondent.

While the sample was designed to be proportional to the population by region, Northwest Ontario was under-represented when the final returns were tallied. For this reason, a weighting factor - calculated as  $85/59 = 1.439$  - was introduced to reflect the proper population profile of that region. A weight of 1.0 was applied to each other region. This brought the Northwest region's effective representation to 85 people and the effective total sample up to 998.

After the detailed statistical tables were produced, each one table was reviewed with particular attention to the consensus that emerged as well as divergences in opinion that became apparent. Data considered to be of significant interest or of major importance were compiled into summary tables for analysis. The resultant summary tables were then grouped by subject matter. A draft report, together with the detailed statistical tables, was then reviewed by both the Commission and the consultants prior to the preparation of this final report.

## RESPONDENTS' HISTORY AND CURRENT STATUS

Although the primary purpose of this study was to determine the respondents' attitudes towards and plans for post-retirement income, valuable insight was gained into the pattern of employment of the population of Ontario 18 years of age and over.

In order to ascertain the respondents' current labour-force status, certain definitions were established by the Commission. The "unemployed" were defined as those who were "currently out of work but actively looking for work." A person was considered to be "retired" if less than 50 per cent of total income were paid from employment, and if pension income other than a disability pension were being received. In addition, respondents were classified as currently working or currently not working. They were considered in the labour force if they were currently working (self-employed; employed by another person, company, or organization; or employed by any level of government); unemployed; laid off or on strike; or on vacation or ill. Respondents were defined as not in the labour force if they were currently retired; a homemaker; a full-time student; or in some other non-working unspecified situation.

The demographic distribution of respondents was compared to that of the 1976 census population and/or to the labour force. In many cases a direct comparison was difficult because of the differences in definition between the study and those used by Statistics Canada. For example, Statistics Canada places post office workers in the general category of "transportation and communications" in the Standard Industrial Classification (SIC) and the Unemployment Insurance Commission in "finance, insurance, and real estate," while respondents classed themselves in the broader category of government employees. However, in those areas where differences in definition were non-existent or marginal, the study closely reflects the make-up of the Ontario adult population as shown in the 1976 census (Table 1).

Table 1

Composition of the Ontario Adult Population by Age Group and Sex, Survey Sample and 1976 Census

	Survey sample	1976 census
Total adult population	998	5,705,886
Age group	(Per cent)	
18-34	32.4	41.5
35-54	34.4	33.3
55 and over	33.2	25.2
Sex		
Male	50.6	49.0
Female	49.4	51.0

Source Question 21.

The differences in age composition between the survey population and that of the 1976 census reflect the difficulty in locating and interviewing young, mainly single, independent members of society. This situation usually results in under-representation of young adults (Table 2).

Table 2

Marital Status of Ontario Adult Population, Survey Sample and 1976 Census

	Survey sample	1976 census
	(Per cent)	
Marital status		
Never married	13.7	20.2
Married	71.1	68.2
Separated	3.4	2.8
Divorced	2.7	1.9
Widowed	8.7	6.9

Source Question 22.



Using the definitions previously described, the employment status of our 998 respondents is shown in Table 3.

Table 3  
Employment Status of Survey Sample Population

	Number	Per cent
In the labour force		
Employed	505	50
Unemployed	35	4
Laid off/on strike	15	2
On vacation/ill	9	1
Total	564	57
Not in the labour force		
Retired	165	17
Students	33	3
Homemakers	216	21
Other	19	2
Total	433	43
Did not state status	1	-
Total	998	100

Source Questions 1a, b, g.

Of the 564 respondents who stated that they were in the labour force, 61 or 11 per cent were self-employed; 348 or 62 per cent were employed by others in the private sector; and 92 or 16 per cent were employed in the public sector. Of the 505 respondents who were currently working, 427 or 85 per cent were employed full time, compared with Statistics Canada's estimate of 86 per cent for those 15 years of age and over; 77 or 15 per cent were part-time workers, compared with Statistics Canada's figure of 14 per cent for those 15 years of age and over. The unemployed (35) accounted for 6 per cent of those in the labour force, and those temporarily not working because they were laid off, on strike, on vacation, or ill (24) accounted for 4 per cent of the labour force. Roughly two-thirds of the labour force was male. However, unemployment was evenly divided between male (51 per cent) and female (49 per cent), reflecting a higher than average rate of unemployment among women (Table 4).

On average, respondents reported 1.6 wage-earners per family. The only notable pattern was that the higher the total family income, the greater the number of wage-earners per family. For example, at an annual income of \$20,000 or more, the number of wage-earners per family was 1.9.

On average, the women remain unemployed longer than men, the duration of their periods of joblessness averaging 11.9 months compared with 5.1 months unemployed for men (Question 1j). Although the average duration of unemployment is 8.5 months, it should be noted that almost half of the unemployed had been without work for less than four months, the

average being 1.5 months. This seeming anomaly is probably due to the 5 respondents who appeared to be chronically unemployed, averaging 19 months of joblessness.

Table 4

Labour Force Status of Survey Sample Population, by Age Group and Sex

	Employed		Unemployed		Total	
	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)
Age group						
18-34	188	33	18	3	206	36
35-54	240	44	11	2	251	46
55 and over	99	17	5	1	104	18
Sex						
Male	351	62	18	4	369	66
Female	176	31	17	3	193	34

Source Questions 1a, b, g.

### Labour Force Mobility

Almost all those interviewed (91.1 per cent) reported that they had been employed at one time. Only 88 stated that they had never worked. The lower the annual family income, the lower the incidence that some members ever had gainful employment (Question 3a). On average, those who reported a work history entered the labour force at 20 years of age. Low-income respondents entered the labour force at an average age of 17 years, while those with higher incomes delayed entry until age 20 or 21.

Table 5 represents the respondents' reported work history at one point in time, including those respondents who had just entered the labour force and some who had completed their work experience. The average respondent had held 3.2 jobs and experienced a hiatus between these jobs of 8.6 months. The hiatus between jobs, on average, appeared rather lengthy, amounting to almost three-quarters of a year. However, this was caused by the relatively high incidence of respondents who left the labour force for an extended period of time before they came back into the job market and started looking for work. It would appear that the more jobs a person had held, the less likely they were to leave their current job. This excludes a small segment of the labour force that was extremely mobile. The majority (83 per cent) who left their jobs and did not leave the labour force found work within one month. The incidence of people leaving the labour force appears to have decreased over time, from almost one-third of respondents leaving after their first job to one-fifth of respondents leaving after their sixth job.

When job mobility patterns are viewed on the basis of the sex of the respondent a number of significant differences between the male and female segments of the labour force can be observed (Table 6). Women appear to be far more likely than men to leave the labour force after



their first job. However, a relatively high percentage of these women later re-entered the labour force (61 per cent or 28.4 per cent as a percentage of 46.8 per cent). Women left the labour force at this stage in their career development primarily to undertake homemaker and child-care activities. Later on in their careers, the incidence of women leaving the labour force declined, but over a period of six jobs the rate for women continued to be substantially higher than that for men. The result of these phenomena is that women spend about three times longer than men between jobs, they tend to keep their jobs for shorter periods of time, and the ratio of women to men in the labour force decreases over time from 47 per cent women at the first job level to 30 per cent at the sixth job level.

Table 7 illustrates the job mobility of respondents who have held at least one job by age group. Those aged 18 to 34 appear to take less time to find a new job than do older people and are considerably more mobile; their average length of time in any one job is lower than the average for older respondents. In general, approximately the same percentage of young people as others left the labour force when they left their previous employment. However, as was to be expected, a higher percentage of younger workers re-entered the labour force after each hiatus.

#### Job Mobility and Pension Benefits

In order to ascertain the opportunity for respondents to receive pension benefits from past as well as present or most recent employers, data were collected on the number of employers respondents had worked for, the number of employers who offered a pension plan, the incidence of the respondents' eligibility to join available plans, the incidence of the respondents' joining such plans, the incidence of their withdrawing contributions to these plans upon termination of employment, and the incidence of their receiving a pension from current and past employers. In total, the 998 respondents worked for an average of 3.3 employers, for a total of 2,800 employers. Of these, 175 were self-employers and 2,604 or 93 per cent were employers of other people. These 2,800 employers provided jobs for 910 respondents (88 stated that they had never held a job) for an average of 6.1 years per employer, and 91 per cent employed these respondents full time (Question 4).

The data in Table 8 show the incidence of employers who provided the opportunity for an employee to receive a company pension. It should be noted that only 26 per cent of all previous employers provided a pension plan for employees, whereas 54 per cent of the present and most recent employers offered this benefit. The 2,800 employers were to provide 431 pensions; however, the majority of these pensions (302 or 70 per cent) will be derived from the present or most recent employer. Not only did fewer previous employers offer a pension plan, but also fewer employees of their enterprises were eligible to join, presumably because of age or tenure. However, when an employee was eligible to join a plan,

Table 5  
Incidence of Job Mobility among Respondents Who Have Held at Least One Job

	1st Job	2nd Job	3rd Job	4th Job	5th Job	6th Job	7th Job
Number of respondents	894	694	513	316	194	119	54
Did not leave job	10.2	16.0	21.1	(Per cent) 24.7	27.8	37.8	31.5
<u>Left job</u>	89.8	84.0	78.8	75.3	72.2	62.2	68.5
Did not leave labour force	57.1	54.9	49.6	48.1	49.5	39.5	48.1
Did not find work	.2	1.2	1.2	2.2	1.5	3.4	1.8
Found work immediately	47.4	46.5	41.2	40.5	43.9	31.9	38.9
Found work after one month or more	9.5	7.2	7.2	5.4	4.1	4.2	7.4
Left labour force	32.7	29.1	29.2	27.2	22.7	22.7	20.4
Returned to work	21.5	19.0	14.4	14.6	14.5	9.2	9.3
Did not return to work	11.2	10.1	14.8	12.6	8.2	13.5	11.1
				(Years)			
Average duration of all jobs Held	5.91	4.76	4.74	4.34	3.99	3.99	3.13
Average length of time between jobs							
All "no" and "don't know" answers to each question have been removed.	.73	.71	.56	.55	.35	.30	

Source Question 3.



Table 6  
Incidence of Job Mobility among Respondents Who Have Held at Least One Job, by Sex

	1st Job		2nd Job		3rd Job		4th Job		5th Job		6th Job	
	M	F	M	F	M	F	M	F	M	F	M	F
Number of respondents	476	429	392	319	300	222	199	130	130	70	87	38
Did not leave job	12.8	7.0	18.6	12.2	27.7	15.3	24.7	26.1	26.2	34.3	43.7	31.6
Left job	87.2	93.0	81.4	87.8	72.3	84.7	75.3	73.9	73.8	65.7	56.3	68.4
Did not leave labour force	68.5	46.2	66.4	43.6	59.0	37.4	57.3	35.4	56.9	35.7	36.8	42.2
Did not find work	.2	.2	1.0	1.3	1.3	.9	1.5	3.1	.8	2.9	2.3	5.3
Found work immediately	55.7	37.1	55.5	33.2	50.4	27.0	48.8	23.8	49.9	27.1	29.9	31.6
Found work after one month or more	12.6	8.9	9.9	9.1	7.3	9.5	7.0	8.5	6.2	5.7	4.6	5.3
Left labour force	18.7	46.8	15.0	44.2	13.3	47.3	18.0	38.5	16.9	30.0	19.5	26.2
Returned to work	14.5	28.4	11.2	27.0	8.3	22.1	9.5	20.8	10.0	20.0	8.0	10.5
Did not return to work	4.2	18.4	3.8	17.2	5.0	25.2	8.5	17.7	6.9	10.0	11.5	15.7
Average duration of all jobs held	7.20	4.47	5.29	4.11	5.26	4.04	4.91	3.46	4.52	2.99	4.55	2.70
Average length of time between jobs	.38	1.19	.29	1.26	.24	1.04	.18	1.25	.17	.73	.18	.52
Source Question 3.												

(Years)

Table 7  
Incidence of Job Mobility Among Respondents Who Have Held at Least One Job, by Age Group

	1st Job			2nd Job			3rd Job			4th Job			5th Job			6th Job		
	18-34	35-54	55+0	18-34	35-54	55+0	18-34	35-54	55+0	18-34	35-54	55+0	18-34	35-54	55+0	18-34	35-54	55+0
	284	329	293	203	280	229	126	214	183	65	137	126	33	89	77	17	53	55
Number of respondents	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total	18.3	9.4	2.7	26.6	17.9	5.2	30.2	25.7	12.6	38.4	28.5	16.7	39.3	33.7	18.2	41.1	45.2	34.6
Did not leave job	81.7	90.6	97.3	73.4	82.1	94.8	69.8	74.3	87.4	61.6	71.5	83.3	60.7	66.3	81.8	58.9	54.8	65.4
Left job	47.9	63.2	61.1	47.8	56.4	62.9	41.3	49.1	55.1	43.2	48.9	50.0	48.5	48.3	51.9	47.1	45.3	29.0
Did not leave labour force	.7	-	-	2.0	1.1	.4	3.2	.9	-	3.1	2.2	1.6	3.0	2.3	-	5.9	1.9	3.6
Found work immediately	37.0	52.6	49.8	35.9	47.8	50.7	30.2	39.3	48.0	33.9	40.1	39.7	36.4	41.5	45.4	35.3	37.7	21.8
Found work after one month or more	10.2	10.6	11.3	9.9	7.5	11.8	7.9	8.9	7.1	6.2	6.6	8.7	9.1	4.5	6.5	5.9	5.7	3.6
Left labour force	33.8	27.4	36.2	25.6	25.7	31.9	28.5	25.2	32.3	18.4	22.6	33.3	12.2	18.0	29.9	11.8	9.5	36.4
Returned to work	24.3	21.9	17.4	15.3	20.7	17.0	12.7	15.4	13.7	9.2	16.8	12.7	6.1	12.4	18.2	11.8	5.7	10.9
Did not return to work	9.5	5.5	18.8	10.3	5.0	14.9	15.8	9.8	18.6	9.2	5.8	20.6	6.1	5.6	11.7	-	3.8	25.5
Average duration of all jobs held	2.94	5.52	9.22	2.48	4.72	6.85	2.38	4.42	6.74	2.11	3.84	6.03	2.23	3.52	5.52	1.87	3.23	5.40
Average length of time between jobs	.49	.77	.89	.48	.79	.75	.29	.64	.62	.20	.80	.39	.13	.30	.47	.13	.38	.27

Note: All "no" and "don't know" answers to each question have been removed.

Source Question 3.

94 per cent of both past and present job-holders participated. The stated incidence of non-contributory pensions was very low at 5.5 per cent of all pensions offered.

Table 8

Incidence of Employers Offering Pension Benefits

	Total		Present or most recent employer		All previous employers	
Number of employers	2,800		910		1,890	
	(Number)	(Per cent)	(Number)	(Per cent)	(Number)	(Per cent)
Employer had/has pension plan	989	35.3	492	54.1	497	26.3
Employee eligible to join plan	836	29.9	445	48.9	391	20.7
Employee was/is member of plan	790	28.2	419	46.0	371	19.6
Employee contributed to plan	743	26.5	391	43.0	352	18.6
Employee did not contribute to plan	41	1.5	24	2.6	17	.9
Employee will receive a pension from contributory plan	206	7.4	90	9.9	116	6.1
Employee will receive a pension from non-contributory plan	28	1.0	23	2.5	5	.3
Employee is no longer with employer will receive pension	234	8.4	113	12.4	121	6.4
Employee is still with employer will receive pension	178	6.4	178	19.6	-	-
Employee withdrew contributions	238	8.5	56	6.2	182	9.6
Employee not permitted to withdraw contributions	136	4.9	53	5.8	83	4.4
Employee withdrew contributions will get pension	19	.7	11	1.2	8	.4
Total employers offering a pension	431	15.4	302	33.2	129	6.8

Source Question 4.

Upon termination of employment, 47.4 per cent of pension plan members withdrew their contributions; of these, 56.7 per cent spent their

refund and did not save or invest the funds for future benefits. However, between 50 and 60 per cent of those pension plan members who left an employer were to receive a future benefit, either through savings and investments or company pensions, including those who stated they would receive a pension and those who withdrew pension contributions but saved or invested the money. Of those employees who were members of a pension plan with previous employers, 34.8 per cent expect to receive a pension, compared with 72 per cent pension of the recipients currently or most recently employed who were members of a plan.

The incidence of RRSPs among professional respondents (21.9 per cent) was double that of the survey group (11.9 per cent). This is obviously a direct reflection of the higher-than-average income of the professionals. This ratio also holds for management. These groups are also more likely to receive a pension than are other occupational groups in the sample except for skilled labourers. Table 9 illustrates the comparative likelihood that those employed in specific industries will receive a pension and/or invest in an RRSP. Data include currently retired respondents. It is obvious that the likelihood of having either a pension or an RRSP was lower in wholesale or retail trade than in any other industries in this sample.

Table 9

Likelihood of Receiving a Pension and/or Investing in an RRSP, by Employees in Specific Industries

	Incidence in sample	Likelihood of Pension RRSP (Per cent)	
Agriculture	3.5 = 100	57	109
Forestry	1.2 = 100	167	100
Fishing and trapping	-	-	-
Mines, quarries, oil wells	1.9 = 100	242	26
Manufacturing industries	22.3 = 100	126	94
Construction industry	4.0 = 100	73	135
Transportation, storage, and communications	6.7 = 100	127	93
Wholesale trade	2.5 = 100	48	36
Retail trade	13.5 = 100	48	79
Finance, insurance, and real estate	4.8 = 100	83	90
Communications, business, and personal service industries	16.7 = 100	68	115
Government, all levels	16.6 = 100	158	123
Self-employed	2.8 = 100	32	136
Other	2.4 = 100	38	79

Those respondents with higher incomes are more likely to have post-secondary education, to own an RRSP, and to receive a company pension (Question 28). For example, upon examination of total family income we found that 62.7 per cent of all RRSP-owning families earned in excess of



\$15,000 annually. Over half (53.8 per cent) of them stated they would receive a pension in excess of \$15,000 annually (Question 29).

#### ATTITUDES TOWARDS GOVERNMENT AND RELATED RETIREMENT INCOMES

In order to determine attitudes towards government retirement benefits and knowledge of the administration and funding of public money, respondents were asked early in the questionnaire what sources of retirement income they expected to have when they retired. Those relating directly to government sources are examined in this section.

As is shown in Table 10, roughly 85 per cent of respondents expect income from the Canada Pension Plan (CPP) and Old Age Security (OAS) pensions. With 17.2 per cent not anticipating benefits from OAS, which is universal, and a total of 19.1 per cent anticipating benefits from

Table 10

Proportion of Respondents Who Expect to Receive Retirement Income from Various Government Programs

Number of respondents	998
	(Per cent)
CPP	85.9
OAS	82.8
GIS	9.0
GAINS	8.8
Welfare	1.3

Source Question 2a.

the Guaranteed Income Supplement (GIS), the Ontario Guaranteed Annual Income System (GAINS), and welfare, it would appear that knowledge of the intent of these programs and the segments of society for which they were put in place were not too clear in the minds of our respondents.

Respondents were then asked if the income they expected would stem from their own contributions, their spouse's contributions, or if they both expected to contribute (Table 11). It is obvious that some respondents considered tax payments as a form of contribution from their families to be used to provide government income assistance. But, except for the CPP, none of the programs is a direct contributory scheme. Perhaps some respondents were confused either by the question or by the terminology.

Currently working respondents were then asked if they were contributing to the CPP. The self-employed were isolated from other currently working respondents to determine what proportion of this group contributes to the CPP in comparison with those employed by others (Table 12). Although their incidence of contribution is high, the percentage of self-employed contributing falls below the average for those employed by

others. Both the 7.1 per cent of those employed by others and the 23 per cent of the self-employed respondents who did not contribute believed they were ineligible. Only 2 respondents - both male, 1 young (18 to 34) and 1 older (55 and over), both married and both self-employed - said they had never given the matter any thought.

Table 11

Sources of Contributions to Various Government Programs

	Own contributions	Spouse's contributions (Per cent)	Both contributions
CPP	59.3	15.3	25.4
OAS	54.5	12.2	33.3
GIS	50.7	15.5	33.8
GAINS	64.1	4.7	31.2
Welfare	75.0	25.0	-

Source Questions 2b, c, d.

Table 12

Proportion of Those Currently Working Who Contribute to CPP, Employees and Self-employed

	Self-employed	All employees
Number of respondents	61	505
	(Per cent)	
Contribute	73.7	90.9
Do not contribute	23.0	7.1
Do not know/Not applicable	3.3	2.0

Source Question 1e.

In order to ascertain general public knowledge of the current maximum CPP monthly payment to a single person retiring this year, respondents were asked to estimate this amount, with no suggestion of the range of possible amounts from the interviewer (Table 13). For ease of analysis, the interviewer placed the answer given by the respondent into ranges from less than \$100 to more than \$300. Of all respondents, 74 per cent either did not know or incorrectly estimated the payment; among retired people, 59.5 per cent either did not know or estimated incorrectly.

Respondents were then told the exact current amount of the CPP benefit (\$194.44) and asked if they thought it was too high, about right, or too low (Table 14). The majority of respondents thought the payment was too low. However, a surprising 41.8 per cent of retired people thought this payment was about right, or 1.5 times as many retired respondents gave this opinion as other respondents in the total sample.

Table 13

Respondents' Knowledge of Maximum CPP Payment to a Single Person Retiring in 1978

	Total	Retired
Number of respondents	998	165
	(Per cent)	
Identified range		
Correctly	26.0	40.5
Incorrectly	22.9	12.1
Did not know	51.1	47.4

Source Question 8a.

Table 14

Respondents' Opinion of Current Maximum Payment to a Single Person

	Total	Retired
Number of respondents	998	165
	(Per cent)	
Benefit payment is		
Too high	.8	1.8
About right	27.0	41.8
Too low	62.4	43.8
Did not know/No answer	9.8	12.6

Source Question 8b.

Respondents were also asked if they would be prepared to contribute more to the CPP in order to receive higher benefits at age 65 (Table 15). Of the 570 respondents who said they would be willing to contribute more to the CPP, 17.2 per cent were retired, 5 per cent were unemployed, 19.3 per cent were currently not in the labour force, 34.4 per cent were between the ages of 18 and 54, 35 per cent lived in cities of 500,000 or more, and 71 per cent were not married. Of the 291 respondents who would not be willing to increase their contributions, 13.1 per cent were retired, and 28.2 per cent were not in the labour force. However, well over half of those interviewed stated a willingness to increase their CPP contributions, indicating a possible range of between 52.7 and 63 per cent of current CPP contributors who would like to contribute more to receive more. As the respondent was given no idea of what these increases would be or how much CPP pensions would increase, this finding should be considered directional only.

Currently, those people who elect to retire before age 65 do not receive CPP and OAS benefits until their sixty-fifth birthday. Respondents were asked if people who elected to retire early should receive these benefits before the age of 65 and, if they did receive benefits prior to 65, whether they should receive the same amount as that paid to people 65 or over (Table 16). In general, respondents favoured CPP/OAS



benefits being paid immediately upon retirement and preferred a lower amount for those younger than 65. The retired were very slightly but not significantly more in favour of this proposition than the average respondent. Assuming that the "Did not know" and "Did not state" respondents would align themselves in the same proportion as those who did express an opinion, approximately 60 per cent of all respondents would be in favour of an immediate pension but a lower payment for those who retired before age 65.

Table 15

Incidence of Willingness to Pay Higher Contributions to CPP

Number of respondents	998
	(Per cent)
Willing to pay higher CPP contributions	
Yes	57.1
No	29.1
Did not know/No answer	13.8

Source Question 8g.

Table 16

Respondents' Attitudes towards Payment of CPP and OAS Benefits to Early Retirees

Number of respondents	998
	(Per cent)
Benefits should be withheld until 65	36.4
Benefits should be paid immediately upon retirement	53.8
Did not know/Did not state	9.9
Payment should be equal to amount paid to age 65 retirees	36.0
Benefits should be an amount less than that paid to age 65 retirees	49.8
Did not know/Did not state	14.2

Source Questions 9a, b.

Respondents were then asked if they agreed or disagreed with the current practice of paying CPP benefits to those over the age of 65 who were still working (Table 17). The majority of respondents agreed that this practice should be continued.

Respondents were also asked if child-raising years should be eliminated from CPP pension calculations in order that the CPP benefit for those who drop out of the labour force to raise children would not be negatively affected (Question 11). The majority of respondents (69.7 per cent) agreed with this proposition, with females (72.9 per cent) being significantly more in favour of the idea than males (66.4 per cent), and



younger people aged 18 to 34 (78.7 per cent) more in favour than the 35 to 55 and over age groups (65.3 per cent).

Table 17

Respondents' Attitude towards Workers over 65 Years of Age Receiving CPP Benefits

Number of respondents	998
Workers over 65 should receive CPP	(Per cent)
Agree	69.1
Disagree	25.3
Did not know/No answer	5.6

Source Question 10.

The proposition was also put to the respondents that homemakers and adults not currently in the labour force should be allowed to contribute to the CPP (Table 18). While 7 out of 10 respondents agreed with these propositions, currently married respondents (70.5 per cent) were more in favour of homemakers contributing than were those who were widowed, separated, or divorced (63.4 per cent). The retired were less in agreement with these propositions than others currently not in the labour force.

Table 18

Respondents' Attitude towards Homemakers and Adults Not in the Labour Force Contributing to CPP

	Homemakers	Adults not in the labour force
Number of respondents	998	
	(Per cent)	
Should be allowed to contribute to CPP		
Agree	73.9	69.4
Disagree	19.4	20.1
Did not know/No answer	6.7	10.5

Source Questions 12, 13.

To determine respondents' attitudes towards the CPP more fully, the present funding method (cross-generation) and a proposed generation self-funding method were explained to those interviewed. Once the interviewer was sure they understood the difference in principle, they were asked what method they would prefer (Table 19).

If the respondents who did not state an opinion were removed from the calculations, approximately 55 per cent of those who did answer prefer generation self-funding and, of these, 78.7 per cent stated they would be willing to increase their CPP contributions in order to pay for their own retirement benefits. However, it should be pointed out that

this 78.7 per cent represents only 43.1 per cent of all respondents asked the question on funding (Table 20).

Table 19  
Preferred Method of Funding CPP Benefits

Number of respondents	998 (Per cent)
Preferred funding method	
Cross-generation	38.8
Generation self	47.1
Did not know/No answer	14.1
Source	Question 14a

Table 20  
Respondents Who Prefer Generation Self-funding Willingness to Increase CPP Contribution

Number of respondents	470 (Per cent)
CPP contribution should be increased	
Yes	78.7
No	12.1
Did not know/No answer	9.2
Source	Question 14b.

In order to determine the perceived adequacy of current government benefit programs to retired people over the age of 65 with no other income, respondents were asked to give their estimates of the minimum monthly income required by today's standards for one person and a couple in this category (Question 17a). Respondents mentioned incomes ranging from under \$200 per month to over \$1,500 per month. However, the average required incomes reported of \$517 for one person and \$786 for two are considerably higher than payments under the current government assistance programs. There are indications that the residents of major urban areas believed that more income is required for a single person (\$549) than do residents of smaller centres (average \$504). Males feel more is required (\$541) than females (\$490). Those currently married (\$527), civil servants (\$562), those currently earning over \$15,000 per annum (\$547), university graduates (\$546), and respondents who have RRSPs (\$565) all estimated more than the average income. These same groups of respondents thought that a retired married couple required more income than the \$746 average income reported.

Respondents were then informed of the current maximum incomes provided through government programs (\$310.75 per month to a single 65-year-old retired person and \$621.50 per month to a married couple in the same category). Additional benefits such as free OHIP and free drugs were also mentioned as part of the total program. Given this informa-

tion, respondents were asked if these programs should pay more and, if so, how much more (Table 21). Of the 63.9 per cent of respondents who thought the payments should be increased, the average increases suggested were \$223 for a single retired person and \$246 for a retired couple. Males, however, wanted a \$270 increase to a married couple and those never married thought a \$287 increase was in order.

Table 21

Respondents' Attitude towards Adequacy of Government Retirement Income Programs

Number of respondents	998
	(Per cent)
Should pay more	
Yes	63.9
No	27.8
Did not know/No answer	8.3

Source Questions 17b, c.

Next, the respondents were asked if they agreed or disagreed with the proposition that retirement income from government or employer pension programs should provide not only for a person's current needs but also allow for an accumulation of assets to pass on to the next generation (Table 22). If the uncommitted responses were removed from Table 22, 72.5 per cent would disagree that government incomes should allow for the accumulation of assets as stated previously, and 64.4 per cent would disagree that company pensions should allow for accumulation. Respondents were slightly more in favour of accumulation from company pensions. Of those who agreed with accumulation, most were younger and never married.

Table 22

Attitudes towards Assisted Accumulation of Assets

	Government pensions	Company pensions
Number of respondents	998	
	(Per cent)	
Pensions should allow asset accumulation		
Agree	24.8	29.9
Disagree	65.3	56.4
Did not know/No answer	10.0	13.7

Source Question 18a.

A general question regarding increasing of government assistance to people over the age of 65 was asked of all respondents (Table 23). Three-quarters or 76.6 per cent of respondents agreed that such assistance should be increased and the majority of them believed that this assistance should be in the form of more money.



Table 23

Respondents' Attitude towards Government Assistance to Those over 65 Years of Age

Number of respondents	998
	(Per cent)
Government should increase assistance	76.6
Government should not increase assistance	14.8
Did not know/No answer	8.7
Total number preferring increase	764
Assistance should be more money to buy goods	59.5
Assistance should be more subsidized services	36.9
Assistance should be both	3.0
Did not know/No answer	.7

Source Question 18b.

Along with income benefits related to government, respondents were informed that the current Human Rights Code provides protection to workers between age 40 and 65 years from firing for reasons of age and were asked if this Code should be amended to provide the same protection to workers over age 65 (Table 24).

Table 24

Respondents' Attitude towards Amendment of Human Rights Code to Protect Workers over the Age of 65

Number of respondents	998
	(Per cent)
Code should be amended	60.1
Code should not be amended	30.9
Did not know/No answer	9.0

Source Questions 16a, b, c.

More than half of the respondents thought the Code should be amended and, when asked if a new upper age limit should be set, 77.7 per cent of those saying the Code should be amended did not want an upper age limit. Of those who wished a new upper limit, 70 was the most frequently mentioned age with the average being 68 years of age.

A statement was read to the respondents explaining what "indexing" was and pointing out that full indexing increases pension costs. No estimate of increased costs was given. Respondents were then asked if they believed that the CPP and OAS pensions should be indexed and, if they agreed with indexing, if they would prefer to pay the increased cost through general taxation or through increased contributions. Those who did not agree with full indexing were asked if they would agree that some part or some percentage of these pensions should be indexed.



Table 25

Respondents' Attitudes towards Indexed Government Pensions

	CPP	OAS
Number of respondents	998 (Per cent)	
Pensions should be totally indexed and paid through general taxes	57.1	60.4
Pensions should be totally indexed and paid through increased contributions	13.9	11.7
Pensions should be totally indexed, but respondents did not know how to fund	7.1	6.5
Pensions should be totally indexed, but not funded by either taxation or contributions	6.5	6.2
Total	84.7	84.9
Pensions should be partially indexed	1.3	1.6
Pensions should have a percentage increase	1.2	1.1
Did not know if any form of indexing or increase should be provided	10.6	10.3
Do not want any form of indexing or percentage increase	2.2	2.1

Source Questions 19a, b, c, d, e.

From Table 25 it is apparent that there was a definite desire among respondents to have these benefits fully indexed, but the preference to have the increased cost paid through general taxation would suggest that there is some confusion about the administration of these pensions. It may be that there is an "asked-first" bias, as these findings contradict results from other similar questions.

#### PROVISIONS FOR AND ATTITUDES TOWARDS VOLUNTARY RETIREMENT INCOME

In order to compare respondents' expectations of retirement incomes and the actual ways in which they were saving or investing to provide income in retirement, all respondents were asked: "What sources of retirement income do you (did you) expect to have when you retire(d)?" In total, nineteen specific ways in which a person could save or invest (or earn or inherit) money to provide for retirement income were read to the respondent. In addition, for each source of expected income, respondents were asked if they or their spouse, or both, had made contributions. The eight most mentioned sources, excluding government related sources, are shown in Table 26.

The single most frequently mentioned source of retirement income was a personally owned home (average 65.5 per cent). This as a source of income has many possibilities; for example, the retired might live

rent-free, sell the home upon retirement, or rent part or all of their home to provide income. More than half the respondents expected to save money for retirement, and an additional 30.4 per cent stated that they expected income from investments. As has been shown elsewhere, expectations rise as annual incomes rise. In general, the expectations of the 35 to 54 age group were marginally higher than those of younger or older people (Table 27). The 35 to 54 age group were counting on a personally owned home as the single largest investment they have.

Table 26

Sources of Expected Retirement Income, by Total Family Income

	Total family income					Average
	Under \$6,000	\$6,000- \$9,999	\$10,000- \$13,999	\$14,000- \$19,999	\$20,000 or more	
	(Per cent)					
Company employee pension	19.2	36.9	52.3	58.0	61.6	51.2
Insurance company annuities	10.9	7.5	16.9	20.5	29.9	21.3
RRSPs	3.9	4.3	19.7	26.9	41.9	26.1
Savings	39.8	49.2	61.6	60.1	73.0	61.9
Investment income	10.9	20.2	29.6	36.6	54.7	38.9
Post-retirement employment	2.6	6.9	7.0	16.5	22.5	13.6
Inheritance	2.6	5.4	6.4	6.6	18.1	10.5
Personally owned home	52.6	46.4	59.8	70.3	75.9	65.5

Source Questions 2a, b, c, d.

Table 27

Sources of Expected Retirement Income by Age Group

	Age group			Average
	18-34	35-54	55 and over	
	(Per cent)			
Company employee pension	50.3	54.8	48.4	51.2
Insurance company annuities	27.4	25.0	11.5	21.3
RRSP	27.1	33.1	18.3	26.1
Savings	62.5	62.4	61.0	61.9
Investment income	39.1	42.9	34.4	38.9
Post-retirement employment	19.5	15.4	6.0	13.6
Inheritance	15.7	12.0	3.8	10.5
Personally owned home	58.7	73.3	64.1	65.5

Source Questions 2a, b, c, d.

Table 28 shows the expected retirement income from eight sources by contributor and by sex. Males decidedly expected income from their own

contributions, with savings and a personally owned home partially as a result of both spouses contributing; females expected the majority of their retirement income from both spouses' contributions.

Table 28

Sources of Contributors' Expected Retirement Income by Sex

	Contributions								Total average
	Male				Female				
	Own	Spouse	Both	Average	Own	Spouse	Both	Average	
Company plan	50.5	2.0	8.0	64.4	12.4	18.1	6.8	37.8	51.2
Annuities	21.0	.6	2.4	24.8	4.6	7.8	5.2	17.7	21.3
RRSPs	23.8	.8	4.6	30.5	6.6	8.6	6.5	21.9	26.2
Savings	35.2	.4	24.7	64.7	13.6	11.5	32.0	59.0	61.9
Invest- ments	27.4	.4	13.1	43.1	7.7	8.2	17.7	34.6	38.9
Job in retire- ment	12.1	.4	3.2	16.8	3.0	3.0	4.1	10.3	13.6
Inheri- tance	5.9	-	2.8	10.2	3.7	1.4	4.5	10.7	10.5
Home	27.0	.8	31.3	64.9	9.6	10.1	44.0	66.1	65.5

Source Questions 2a, b, c, d.

Examination of these expected sources by "never marrieds" and "marrieds" revealed some interesting differences (Table 29). The never marrieds, mostly younger people, did not expect to own their own home to the same extent as those now married and have higher expectations of inheritance - again a reflection of age.

Table 29

Expected Sources of Retirement Income of Marrieds and Never Married

	Never Married	Married
Number of respondents	137	710
	(Per cent)	
Company employer pension	48.4	55.2
Insurance company annuities	30.3	28.7
RRSPs	4.4	4.7
Savings	62.9	64.6
Investment income	42.3	41.2
Post-retirement employment	16.0	15.4
Inheritance	16.7	10.0
Personally owned home	39.0	72.9

Source Questions 2a, b, c, d.

When expectations were broken down by employment status, very few differences were found between self-employed and employed by another, with exception of anticipated company pensions (Table 30).



Table 30

Sources of Expected Retirement Income, by Employment Status

	In the labour force			Not in the labour force		Average
	Self-employed	Employed	Unemployed	Retired	Others	
	(Per cent)					
Company plan	16.4	59.6	17.2	51.9	39.5	51.2
Annuities	23.3	25.3	28.7	10.9	19.0	21.3
RRSPs	38.3	32.4	31.5	10.9	24.0	26.2
Savings	63.3	62.5	70.1	58.0	64.0	61.9
Investments	53.3	42.3	32.8	35.0	36.1	38.9
Job in retirement	21.7	16.8	28.7	3.0	12.4	13.6
Inheritance	11.7	11.2	17.2	5.1	11.8	10.5
Home	70.0	68.0	58.6	55.8	69.8	65.5

Source Question 2.

The high incidence of self-employed expecting incomes from voluntary contributions reflects the lack of planned pension incomes for this group. But again, all segments planned on owning their own home.

Later on in the questionnaire, respondents were asked how they were actually saving for retirement income (Table 31).

Table 31

Ways in Which Respondents Are Now Saving for Retirement(a)

	Insurance company annuities	RRSPs	Savings	Investments	Personally owned home
	(Per cent)				
In the labour force					
Self-employed	27.0	38.5	61.5	46.7	75.4
Employee	20.9	27.7	60.8	36.2	63.0
Unemployed	20.1	22.9	57.3	22.9	34.4
Not in the labour force					
Retired	7.9	13.3	61.3	30.2	61.3
Others	11.2	13.6	46.9	26.7	56.9
Average	16.1	21.3	57.4	32.2	59.4

a Company employer pension is not included because it was not listed as a way of saving in this question and was explored in detail elsewhere.

Source Question 2e to j.



As expected, a personally owned home was very high on the list of ways to save except among currently unemployed, but even the unemployed were saving directly for their retirement to a larger extent than indirectly through investments.

When these five sources of retirement income were compared, some differences emerged (Table 32). In some instances, expectations exceeded reality. For example, expectations among the unemployed were high (70.1 per cent), but only 57.3 per cent were actually saving. On the other hand, more self-employed were saving for a home than were reported expecting income from this source. Basically, the retired appeared to have been somewhat disappointed in their expectations, as were those not now in the labour force, except for their own home and savings. Those who were not now saving for retirement reported, on the whole, that they just did not have income available to put aside because there were demands on their money.

Table 32  
Comparison of Expected and Saved for Retirement Income

	In the labour force			Not in the labour force	
	Self-employed	Employee	Unemployed	Retired	Others
	(Per cent)				
Insurance company annuities					
Expect	23.3	25.3	28.7	10.9	19.0
Saving for	27.0	20.9	20.1	7.9	11.2
RRSPs					
Expect	38.3	32.4	31.5	10.9	24.0
Saving for	38.5	27.7	22.9	13.3	13.6
Savings					
Expect	63.3	62.5	70.1	58.0	64.0
Saving for	61.5	60.8	57.3	61.3	49.9
Investments					
Expect	53.3	42.3	32.8	35.0	36.1
Saving for	46.7	36.2	22.9	30.2	26.7
Personally owned home					
Expect	70.0	68.0	58.6	55.8	69.8
Saving for	75.4	63.0	34.4	61.3	56.9

Source Questions 2e to j.

"

Some questions were asked respondents about "locking-in," "vesting," and withdrawal of pension contributions in employer pension plans. The basic question was what should be done with contributions when contrib-

uting and/or non-contributing employees leave an employer before retirement age. Respondents were asked whether employees should be required to leave any portion of contributions in the plan and whether employers should be required to leave any portion of their contributions in the plan at that time (Table 33).

Respondents were slightly more inclined to require employers to leave contributions in the plans than were employees. However, they were evenly split on employees' contributions. Those respondents who stated that they would receive a pension (347) were more in favour of leaving employee contributions in the company pension plan (56.6 per cent) than were other segments of the sample (average 49.3 per cent). Self-employed respondents were much less likely to favour this approach (34.5 per cent) than other respondents, perhaps because there are fewer pension plans open to them. The self-employed were less likely to favour leaving employers' contributions in pension plans (43.4 per cent) than the average respondent (58.4 per cent), while those who were to receive a pension were significantly more in favour of this proposition (68.8 per cent) than the average respondent (58.4 per cent).

Table 33

Attitudes towards Leaving Employee and/or Employer Contributions in Company Pension Plans

	Employee's contributions	Employer's contributions
Number of respondents	998	998
	(Per cent)	
Contributions should be left in plan		
Yes	49.4	58.4
No	48.6	38.6
Did not know/No answer	2.0	3.0

Source Questions 5a, 6a.

Of those who agreed that some portion of the contributions should be left in the pension plan, the average amount was approximately 75 per cent for both employee and employer contributions (Table 34). Those respondents who had never been married advocated leaving less of the employee's contributions in the pension plan (61.1 per cent) than the average, and those who were to receive a pension wished considerably more retained in the plan (80.5 per cent) than the average. The next question asked, if some portion of the contributions should remain in the plan, whether the age at which the employee left the company should be a criterion (Table 35). The majority (68.4 per cent) did not feel that age should be considered, once the principle of leaving a portion of an employee's contributions in the pension plan was established. Those who felt age should be a criterion said that, on average, an employee should be at least 45 years of age at severance before being required to leave a portion of contributions in that company's pension plan. An even higher percentage of respondents (72.8 per cent) did not

feel age should be taken into consideration when leaving a portion of the employer's contributions in a pension plan, if an employee left before retirement; 19.1 per cent who felt that age should be considered thought the employee should be at least 46 years of age.

Table 34

Proportion of Contributions to be Retained by Those Who Agreed Contributions Should Remain in the Plan

	Employee's contributions	Employer's contributions
Number of respondents	492	583
	(Per cent)	
Amount that should be left		
25 per cent	14.2	10.8
50 per cent	24.9	23.7
75 per cent	5.7	4.0
100 per cent	52.2	59.0
Did not know/Not applicable	3.0	2.5
Average	74.7	78.5

Source Questions 5b, 6b.

Table 35

Age as a Criterion of Leaving Contributions in Company Pension Plans, by Respondents Who State that Contributions Should Be Left in Plan

	Employee's contributions	Employer's contributions
Number of respondents	492	583
	(Per cent)	
Age should be a criterion		
No	68.4	72.8
Yes	24.4	19.1
Did not know/Not applicable	7.2	8.1
Average age given by those stating age should be a criterion	45.1	46.4
	(Years)	

Source Questions 5c, 6c.

Next, respondents were asked if the number of years the employee had worked for the company should be a qualifier (Table 36). Again most (63.7 per cent for employee's contributions, and 60.5 per cent for employer's contributions) did not consider length of service to be a necessary criterion. The self-employed were slightly more emphatic than the average respondent about applying length of service conditions to employee's contributions; 71.4 per cent said the requirement should apply no matter how long the employee had worked for the company. Those who believed length of service should be a factor in the decision to retain employee contributions or not had an average tenure with a company



of 11.7 years; when considering employer contributions, their tenure was 10.8 years.

Table 36  
Length of Service as a Criterion of Leaving Contributions in Company Pension Plan, by Respondents Who Agreed that Contributions Should Be Left in Plan

	Employee's contributions	Employer's contributions
Number of respondents	492	583
	(Per cent)	
Length of service should be a criterion		
No	63.7	60.5
Yes	28.5	33.2
Did not know/Not applicable	7.8	6.3
Average service of those stating that	(Years)	
length of service should be a criterion	11.7	10.8
Source Questions 5d, 6d.		

Exploring this area still further, respondents were queried about the idea that employees should be allowed to withdraw an employer's contributions from a plan even if the employees themselves did not contribute (Table 37).

Table 37  
Respondents' Attitudes towards Employees Withdrawing Employer's Contributions from a Non-Contributory Pension Plan

Number of respondents	998
	(Per cent)
Employees should be allowed to withdraw	
Yes	38.8
No	49.8
Did not know/No answer	11.4
Source Question 7a.	

Here we saw a slight reversal. The majority (approximately 50 per cent) did not see this as a viable situation, and 11.4 per cent would not venture an opinion. Of those who thought that employees should be allowed to withdraw employers' contributions from non-contributory plans, the average acceptable withdrawal was nearly 80 per cent of contributions (Table 38).

When asked, as in the previous question, if age should be a factor, most respondents who thought employees should be allowed to withdraw did not think that age upon leaving the company should be considered (Table 39). Of those who thought age should be a factor, 49 was considered the average age considered appropriate.



Table 38

Proportion of Withdrawable Contributions from a Non-Contributory Plan,  
by Those Stating that They Should Be Allowed to Withdraw

Number of respondents	387
	(Per cent)
Amount of withdrawable contribution	
25 per cent	7.4
50 per cent	26.2
75 per cent	3.1
100 per cent	58.8
Did not know/No answer	4.5
Average	79.7

Source Question 7b.

Table 39

Age as a Criterion of Employees Being Allowed to Withdraw from a Non-Contributory Pension Plan

Number of respondents	387
	(Per cent)
Age should be a criterion	
Yes	12.3
No	82.0
Did not know/No answer	5.7
	(Years)
Average age specified	48.6

Source Question 7c.

Length of service in this situation was also not thought to be a necessary criterion for withdrawal of employees contributions. However, those who thought length of service should be considered stated that the employee should have worked for the company an average of three years (Table 40).

Respondents were asked specifically about current and past ownership of RRSPs (Table 41). As with other voluntary savings and/or investments, self-employed respondents reported a greater incidence of RRSP ownership than the average respondent.

In Table 42 ownership of RRSPs is shown by age, sex, and income. More males than females, more respondents with higher incomes, and more respondents from the 35 to 54 age group reported ownership of RRSPs. These respondents also owned slightly more RRSPs than the average respondent. As with other savings and investments, the amount of discretionary income was directly related to financial planning.

Table 40

Length of Service as a Criterion of Employees Being Allowed to Withdraw Contributions from a Non-Contributory Pension Plan

Number of respondents	387
	(Per cent)
Length of service is a criterion	
Yes	26.3
No	67.9
Did not know/Not applicable	5.8
	(Years)
Average length of service specified	2.6

Source Question 7d.

Table 41

Incidence of RRSP Ownership by Employment Status

	Have RRSPs now	Did have RRSPs	Average number of RRSPs owned
	(Per cent)		
In the labour force			
Self-employed	40.1	5.5	1.6
Employed by another	27.1	3.5	1.4
Unemployed	17.2	3.5	1.6
Not in the labour force			
Retired	12.7	6.2	1.6
All Others	15.6	2.1	1.2
Average	22.0	3.7	1.5

Source Questions 2e, f, g, h, i.

Those respondents who reported RRSP ownership were asked if they had, in addition to RRSP investments, an employer pension plan, a deferred profit-sharing plan, or a Registered Retirement Investment Fund (RRIF) (Table 43). The incidence of RRIF ownership was unexpectedly high, as this plan has only recently become available. Perhaps there was some confusion with the terminology as other registered income funds obtainable from financial institutions or insurance companies might have been mistakenly identified as RRIFs.

Respondents with current or past RRSPs were asked what they planned to use (or did use) the money for (Table 44). For easier analysis, responses to this question were calculated out of the total number of RRSPs owned; that is, 248 respondents owned a total of 358 RRSPs over time. In total, 80.1 per cent of the RRSPs will be used or were being used for retirement purposes. More men than women reported the main use was for retirement, as did more respondents in the 35 to 54 age group.

Table 42  
Incidence of RRSP Ownership, by Age Group, Sex, and Income

	Have RRSPs now	Did have RRSPs	Average number of RRSPs Owned
	(Per cent)		
Age group			
18 - 34	15.6	2.0	1.2
35 - 54	30.4	4.8	1.6
55 +	19.5	4.5	1.4
Male	25.6	5.1	1.6
Female	18.2	2.5	1.3
Income			
Under \$6,000	1.3	2.6	1.0
6,000-9,999	5.4	3.9	1.1
10,000-13,999	15.7	4.2	1.1
14,000-19,999	21.7	4.8	1.3
20,000 and over	34.4	4.5	1.6
Average	22.0	3.7	1.5

Source Question 2.

Table 43  
Incidence of Ownership of Other Plans in Addition to RRSPs

Number of respondents owning RRSPs	248
	(Per cent)
Have an employer pension plan	51.5
Have a deferred profit-sharing plan	8.2
Have a registered retirement investment fund	6.9

Source Question 2i.

As with government related incomes and pensions, respondents were asked about total and partial indexing of pensions for federal and provincial politicians, civil servants, and employers (Table 45). Respondents were more in favour of total indexing than any other proposition put forward in this area. However, the preference for paying for indexing through general taxation was at variance with attitudes stated by these respondents in other areas. An "asked-first" bias is possible and should be taken into consideration when assessing the data.

It is evident that respondents were more in favour of totally indexing pensions that are perceived to benefit private-sector employees rather than those benefitting public-sector employees. Almost 2 out of

every 10 respondents did not want elected politicians to receive any form of pension indexing or increase. Younger respondents (18 to 34) and those in larger population centres were more in favour of indexing federal MP pensions than were others. Older respondents (55 and over) and those in semi-rural or rural areas were more opposed to indexing these pensions than were the retired respondents. As far as provincial MPP pensions were concerned, more rural residents and more older people were again opposed to total indexing, while people in larger cities and those who had never been married were slightly more in favour compared with the average response. Indexing of both federal and provincial civil service pensions was not favoured as much by those widowed, divorced, or separated; by those earning under \$6,000 per year; or by retired respondents.

Table 44  
Expected Use of RRSPs by Age Group, Sex, and Income

	Total RRSPs	Use all for retire- ment	Use all for other purposes	Use for both	Did not state use
Number of RRSPs	358	286	33	26	12
	(Per cent)			(Number)	
Age group					
18 -34	19	16	9	11	1
35 -54	51	55	13	10	4
55 +	30	29	11	5	7
Male	64	64	21	16	9
Female	36	36	12	10	3
Income					
Under \$6,000	1	1	1	-	-
6,000-9,999	3	2	3	1	-
10,000-13,999	5	4	2	2	1
14,000-19,999	15	14	6	5	3
20,000 and over	52	56	12	11	2
In labour force					
Self-employed	12	13	5	2	-
Employed by another	56	56	17	16	7
Unemployed	3	4	1	-	-
Not in labour force					
Retired	14	13	6	4	3
All others	15	15	4	4	2
Total planned/actual use of RRSP	100.0	80.1	9.3	7.3	3.4

Source Question 2h.



Company or employer pensions should be totally indexed as far as the majority (74.6 per cent) of respondents was concerned. The self-employed were not as much in favour as those employed by others (64.8 vis-à-vis 76.8 per cent), but this was a direct reflection of the low incidence of employer or company pensions among these respondents. Civil servants were also not as favourably disposed towards this proposition (69.6 per cent) as was the majority of respondents.

Table 45

Respondents' Attitudes towards Total and Partial Indexing of Specific Types of Pensions

	Federal MPs	Provincial MPPs	Civil servants	Employers
Number of respondents	998 (Per cent)			
Pensions should be totally indexed and paid for through general taxes	24.2	24.4	36.6	41.9
Pensions should be totally indexed and paid for through increased contributions	9.6	9.7	12.4	16.4
Pensions should be totally indexed, but did not know how to fund	5.1	5.2	7.0	7.6
Pensions should be totally indexed, but not funded through taxation or increased contributions	6.5	6.4	8.2	8.6
Total in favour of total indexing	45.4	45.7	64.2	74.5
Pensions should be partially indexed	10.7	10.6	5.3	3.2
Pensions should have percentage increase	3.6	3.6	2.3	1.2
Did not know if any form of indexing or increase should be provided	20.4	20.2	17.1	15.1
Did not want any form of indexing or percentage increase	19.7	19.7	11.0	5.9

Source Questions 19 a, e.

When it came to paying for the increased cost of fully indexing federal MPs pensions, 24.2 per cent of respondents wished this cost to be assessed through general taxation, 9.6 per cent through increased contributions from contributors, 5.1 per cent did not know how to pay

the cost, and 6.5 per cent wanted these pensions fully indexed but not through the two alternatives given. Similar attitudes prevailed towards provincial MPPs pensions. However, respondents were more inclined to pay for civil servants' and employers' pensions through increased contributions (12.4 and 16.4 per cent, respectively). Fewer respondents wanted partial indexing for these types of pensions than for those of MPs, and fewer respondents did not want any form of indexing or increase applied to civil servant and employer pensions (5.9 per cent).

Males seemed more likely to want all fully indexed pensions paid for through general taxation than did females, and younger people were more in favour of this form of assessment than older people. Respondents' level of education did not appear to influence this preference, but income did. As income increased, willingness to fund all types of pensions through general taxes also increased. Age was also a factor in respondents' willingness to pay for full indexing through increased contributions. The older the respondents the less willing they were to prefer this way of meeting increased costs. Widowed, divorced, and separated respondents were less likely to want to increase contribution than those currently married, possibly because they have reduced incomes. Again, the higher the income, the higher the preference for paying through increased contributions, and those who stated they would receive a pension were less in favour of this alternative than were those who would not.

Of the 447 respondents who stated that they were to receive an employer pension, a surprising 36.3 per cent stated that they wished to receive more information about their pension (Question 20c, d). Of these, the most frequently mentioned desired information was how and where pension fund money was invested and how much pension would they receive. Closely following these questions was the stated desire for all available information on pensions. Retired respondents stated the most important information was the exact amount of pension they would receive.

#### PROFILE OF RETIRED RESPONDENTS

In view of the fact that the Commission defined the retired as those who receive less than 50 per cent of their total income from paid employment and who are in receipt of a pension other than for a disability, it was thought that this segment of the sample should be analyzed in isolation to provide a clearer picture of "profiles" of retired respondents. Therefore, this section presents detailed research findings as they relate to retirees only, and any meaningful comparisons with other segments of the sample are discussed in the summary.

In total, 165 respondents in the survey qualified as retired, 99 of whom were male and 66 were female. Only 3 were under 55 years of age. About 30 per cent were from cities with a population of 500,000 or over;

31 per cent were from smaller cities of 100,000 to 419,999; 16 per cent were from centres of 10,000 to 99,999; and 23 per cent were from centres of 10,000 population and under and rural areas. Most (67 per cent) were now married. Excluding 44 respondents who did not state their income, the average total personal income was \$6,900 per year; and, on average, these respondents had been retired 7.5 years. Females tended to have been retired longer than males - average 10.1 years compared with 6 years - and the widowed, separated, and divorced an average of 11.4 years. On average, those with lower incomes had been retired longer than those with higher incomes (at under \$6,000 annual income, the average length of retirement was 9 years and at \$20,000 and over 5.5 years). Those with lower levels of education had been retired longer than the average (8.2 years to 7.5 years), and those who were not receiving a company pension longer (9.1 years) than those who were (5.5 years).

Retired respondents were asked what sources of retirement income from government and related areas they had expected (Table 46).

Table 46

Retirees' Expected Sources of Retirement Income from Government Programs

Number of respondents	165
	(Per cent)
CPP	74.0
OAS	90.7
GIS	18.1
GAINS	10.8

Source Question 2a.

It should be noted that the GIS and GAINS expectations were probably inflated by actual receipt of benefits, as the number of GIS payouts is double the sample expectation of receipts and the GAINS payouts are 2 percentage points higher than the expectations.

Expected sources of voluntary retirement incomes show that the retired had lower expectations in all cases than the survey averages (Table 47).

The next question asked respondents to state the contributor to these expected incomes (Table 48). Both partners contributed to a personally owned home and savings, while CPP, OAS, employer pensions, and investment income derived mainly from a respondent's own contributions.

As with other respondents, the retired were asked to report their working history, starting with the age they first entered the labour force, the number of jobs held, the length of time in each job, the length of time between jobs, and the reasons for these hiatuses in their working careers. Of the 165 retired respondents, 9 stated that they had never worked and the 156 who had worked gave an average age upon enter-



ing the work force of 21. The average number of jobs reported was 3.34 per retired respondent (Table 49).

Table 47

Retirees' Expected Sources of Retirement Income from Non-government Programs

Number of respondents	165
	(Per cent)
Company/employer pensions	51.9
Insurance company annuities	10.9
RRSPs	10.9
Savings	58.0
Investment income	35.0
Personally owned home	55.8
Source	Question 2.

Table 48

Sources of Contributions to Retirees' Expected Incomes

	Own	Spouse's	Both
	(Per cent)		
CPP	55.0	9.3	7.9
OAS	49.2	6.9	18.2
GIS	9.0	1.8	3.0
GAINS	5.4	1.2	.6
Company/Employer pension	40.8	9.3	1.2
Insurance company annuities	7.9	2.4	-
RRSPs	7.3	1.8	1.8
Savings	32.0	4.2	17.6
Investment income	20.5	4.2	8.5
Personally owned home	22.9	4.2	27.5
Source	Questions 2b, c, d.		

The average number of jobs held by the retired people in our sample is only slightly higher (3.34) than the average (3.25). Note, however, that by the end of the sixth job, 91 per cent of the respondents had left the labour force for good. At the 10-job level, only 2 currently retired respondents were still in the labour force. The time between jobs also decreased significantly from job to job, with respondents taking a fair length of time between jobs 2 and 3, and 3 and 4.

Employer history and opportunity to take advantage of a pension plan was broken down by number of employers, not by any demographic criteria; therefore, there was no opportunity to examine the retired respondents' answers (Questions 4b to n). From Question 2j, we were able to ascertain that no one had a deferred profit-sharing plan, 1 person had a RRIF, and 18 people had an employer pension in addition to an RRSP. Only 18 per cent of retired people reported current or previous

ownership of RRSPs, and these 30 people reported owning an average of 1.6 RRSPs. When asked to what purpose these RRSP benefits were to be used, 73.5 per cent of RRSP-owning respondents said all was being used for retirement, 12.2 per cent stated they were using the money for other purposes, and 8.2 per cent were spending partly on retirement and partly for other purposes.

Table 49

Incidence of Job Mobility among Retired Respondents Who Held at Least One Job

	1st	2nd	3rd	4th	5th	6th
Number of respondents	155	114	89	57	35	25
	(Per cent)					
Did not leave job	-	-	-	-	-	-
Left job						
Did not leave labour force						
Did not find work	-	-	-	-	-	-
Found work immediately	52.9	50.9	47.2	38.6	48.6	32.0
Found work after one month or more	7.7	10.5	4.5	10.5	11.4	8.0
Left labour force						
Returned to work	12.9	16.7	12.4	12.3	11.4	16.0
Did not return to work	26.5	21.9	36.0	38.6	28.6	44.0
Cumulative total leaving labour force	26.5	42.6	63.2	77.4	83.9	91.0
	(Years)					
Average duration of all jobs	11.26	6.98	7.26	6.71	5.23	5.39
Average length of time between jobs	.60	.72	.72	.46	.26	.20
Source Questions 3c-e, 4a.						

Respondents were also asked in what way or ways they had saved for their retirement (Table 50). Although only 10.9 per cent of these respondents stated that they expected to have RRSP benefits, in actual fact 13.3 per cent had invested in these plans. While 58 per cent expected to have savings available, 61.3 per cent actually had saved funds for use in retirement; and while 55.8 per cent expected to own their own home, 61.3 per cent were in their own home. Some 35 per cent of the retired expected to invest for future benefits but actual investment was reported by only 30.2 per cent of them. However, it is interesting to note that this generation did, in fact, make an effort to provide for themselves in their old age, basically through savings and buying a house. Only 26 people or 15.7 per cent of the retired respondents stated that they had not put money aside for retirement purposes. The most frequently mentioned reason for not saving was that they had "no money available to save." The next most mentioned reason (19.2 per cent) was that there were too many other priorities (Question 2k).

Table 50  
Retirees' Methods of Saving for Retirement

Number of respondents	165
	(Per cent)
Government annuities	6.7
Union pensions	1.8
Insurance company annuities	7.9
RRSPs	13.3
Credit union annuities	1.8
Savings	61.3
Investments	30.2
Personally owned home	61.3
Other	2.4
Did not save	15.7
Source	Question 2

Respondents' answers to questions about the rights of employees to withdraw contributions from pension plans, whether contributory or non-contributory, and also about plans that would require both employee and employer to leave all or part of their contributions in the pension funds when the employee left the company before the age of retirement are shown in Tables 51 and 52.

Table 51  
Retirees' Attitudes towards Leaving Contributions  
in Pension Plan

Number of respondents	165
	(Per cent)
Contributions should be left in plan	
Yes	51.1
No	43.2
Did not know/No answer	5.7
Source	Questions 5a-d.

Table 52  
Proportion of Contributions that Should Be Left in Pension  
Plan

Number of respondents	84
	(Per cent)
Proportion of contributions that should be left	
25 per cent	13.0
50 per cent	15.4
75 per cent	3.6
100 per cent	64.5
Average that should be left	40.4
Source	Questions 5a-d.



Half of the retired believed that some portion of an employee's pension contributions should be left in the plan and, on average, 40.4 per cent was the amount that respondents believed should be left.

When asked if this condition should apply no matter at what age the employee left the company, 68 per cent of respondents replied that age should not be a criterion; 21.3 per cent thought that age should be considered and thought the average age should be 63.8 years, a figure that is much higher than the average of 45.1 years given by the total sample. Respondents were also asked if employees should be required to leave a portion of their contributions in the plan no matter how long they had worked for the company. Retired people stated the employee should have worked for the company for at least 11.1 years. The same questions were asked about employers' contributions to a pension plan on behalf of the employee (Table 53). Respondents on the whole felt that a portion of the employer's contributions should be left in the plan, no matter how old or long-service the employee.

Table 53  
Retirees' Criteria for Employers Leaving Contributions in  
Company Plan

Number of respondents	165 (Per cent)
Employer should leave contribution in plan	
Yes	59.6
No	35.0
Average that should be left in plan	80.3
Age should be a criterion	
No	70.5
Yes	18.3
Average age when employee leaves company at which condition should apply	44.3 years
Length of service should be a criterion	
No	62.4
Yes	26.4
Average number of years employee should have worked for company	9.3
Source Questions 6a-d.	

In answer to the next question - whether the employee should have the right to withdraw contributions made by the employer when the employee had not contributed to the plan - 37.8 per cent of the respondents said that the employee should be allowed to withdraw at least 78.5 per cent of the contribution, 80.8 per cent of those who felt they should be allowed to withdraw felt this condition should apply no matter

at what age the employee left the company. Those who felt age should be a criterion said the employee should be at least 47 years of age; 69.6 per cent of respondents thought this condition should apply no matter how long the employee had worked for the company, but 19.2 per cent believed that length of service should be a criterion and that the employee should have worked for the company at least 2.5 years (Questions 7a-d).

Retired people, when asked what they thought the current maximum CPP payment to a single person per month was, displayed more knowledge than the average respondent in the sample: 40.5 per cent correctly identified that range as being between \$100 to \$199 per month; and 27.4 per cent incorrectly estimated the amount (Questions 8a,b). They were asked if they thought that the actual benefit of \$194.44 was too high, about right, or too low. Surprisingly, 41.8 per cent of the retired thought this payment was about right; 43.8 per cent thought it was too low; and 1.8 per cent thought it was too high.

The next question asked these retired people if their needs for income for their own consumption had increased, decreased, or remained the same since they retired (Table 54).

Table 54  
Post-Retirement Income Needs

Number of respondents	165
	(Per cent)
Income needs	
Increased	62.8
Decreased	6.1
Remained the same	30.5
Did not know/No answer	.6

Source Question 8c.

Those who replied that their income needs had increased or decreased were asked what was the major factor that caused their needs to change (Question 8d). Those who stated their income needs had decreased gave "clothing needs are less" (60 per cent), "car expenses are less" (10 per cent), and the remaining 30 per cent either did not know exactly why or did not state. Those who stated their income needs had increased gave "inflation and the cost of living" as the major factor (97.1 per cent). Respondents who stated that inflation or the rise in cost of living had affected their standard of living claimed that they "now had to scrimp on everything" (35.6 per cent), "food cost more" (24.3 per cent), and it was "difficult to maintain pre-retirement standards" (22.3 per cent) as the major ways in which their way of life had been affected (Question 8c).

On the average, 94 respondents stated they were receiving 68.4 per cent of their pre-retirement income (Question 8f). Most of those who

were receiving over half of their pre-retirement income were male, and 59.2 per cent of the retired respondents would have been prepared to pay higher contributions to the CPP in order to receive higher benefits at age 65 (Question 8g).

The next questions explored various aspects of CPP and OAS programs. The first question asked respondents if they believed a person who elected to retire early (prior to age 65) should receive benefits immediately upon retirement or at age 65. Respondents were also asked if the pensions were paid upon retirement whether the amount should be equal to that paid a person 65 years of age or less (Table 55).

Table 55  
Retirees' Attitudes towards Payment of OAS and CPP to Those Who Retire Early

Number of respondents	165
	(Per cent)
Paid immediately	54.0
Withheld until age 65	37.5
Amount equal to age 65 retirement'	36.2
Amount less than to an age 65 retirement	51.0

Source Question 9a, b.

At present, workers who continue to work after the age of 65 receive CPP benefits while still at work; 63.8 per cent of retired respondents agreed that this was appropriate, while 27.8 per cent disagreed (Question 10). As did other respondents, the retired believed that benefits should be paid immediately upon retirement but that they should be lower than those paid to a person who retired at age 65.

Table 56  
Retirees' Attitudes towards Dropout Provision in CPP Calculations

Number of respondents	165
	(Per cent)
Child-raising years should be dropped	
Disagreed strongly	16.9
Disagreed somewhat	15.7
Agreed somewhat	32.3
Agreed strongly	29.0
Did not know/No answer	6.1
Weighted average based on a range of 0-100	+59.4

Source Question 11.

The next question proposed that workers who left the labour force to raise children up to the age of 7 years should be allowed to drop these child-raising years from pension calculations in order not to decrease eventual pension benefits (Table 56).



To the next proposition - "Do you agree or disagree with the proposal that homemakers should be able to contribute to the CPP?" - 63.5 per cent of respondents agreed with this proposal, while 21.5 per cent disagreed (Question 12). Respondents were also asked if they agreed or disagreed with the proposal that adults who are not in the labour force should be able to contribute to the CPP; 61.7 per cent agreed, and 23.5 per cent disagreed (Question 13).

Two alternate methods of funding the CPP were then explained to respondents: cross-generation funding, where the workers of today pay for the benefits received by those retired; and generation self-funding where each generation fully pays for their own benefits in retirement. Respondents were asked which of the two methods they would have preferred (Table 57). Those who preferred generation self-funding were asked if they would have been willing to increase their CPP contributions in order to pay fully for their retirement pension from this plan (Question 14b); 84.3 per cent of the 70 respondents who preferred generation self-funding said they would have been willing to contribute more.

Table 57  
Retirees' Preferences for Funding Methods

Number of respondents	165
	(Per cent)
Cross-generation funding	32.6
Generation self-funding	50.2
Did not know/No answer	17.2
Source Question 14a.	

At this point in the questionnaire, respondents were asked if they thought they should have retired earlier, later, or at the age they did. Then they were asked at what age they now thought they should have retired and were asked to give reasons for their decisions (Table 58); 56.2 per cent said they were satisfied that retiring when they did was the right decision, 16.9 per cent said they should have retired earlier, and 19 per cent said later. Respondents who said they planned to retire at a specific age did not change their minds to a significant degree: 26 per cent stated that they did retire prior to age 60, while 39 per cent thought they should have retired prior to that age. In the 61-64 age group, more people retired (31 per cent) than stated they should have retired in this group (9 per cent). Fewer people retired at age 65 (27 per cent) than stated they should have (43 per cent). From these responses, we might conclude that a considerable group of retired respondents now think they should have continued working until age 65 in order to maximize benefits.

The respondents' reasons for retiring or continuing to work centred mainly around their health and financial position. While a few (4.2 per cent) found the working responsibility becoming too onerous, a large percentage (16.9 per cent) thought people should work as long as they

enjoyed good health and were able to cope with the job, as their financial position would be much better. Those who thought they should have retired earlier felt they would have enjoyed their retirement more (5.1 per cent) and would have had better health in retirement (3.0 per cent).

Table 58

Retirees' Evaluation of Their Decision to Retire, by Age Group(a)

	Planned to retire	Should have retired
Number of respondents	155	113
	(Per cent)	
Age group		
Under 50	3	3
51 - 55	8	16
56 - 60	15	20
61 - 64	31	9
65	27	43
66 - 70	8	8
71 and over	2	8
Did not plan to retire	6	-

a Those who did not state actual retirement age or did not state at which age they should have retired have been removed from sample.

Source Questions 15 a-e.

Respondents were asked what factors would have affected their choice of retirement age if the choice to retire at a particular time had been entirely up to them (Table 59). Again, health and financial position were the most important factors in choosing to retire.

Table 59

Factors that Would Have Influenced Retirees' Decision to Retire

Number of respondents	165
	(Per cent)
State of health	80.0
Financial position	66.8
Level of other activities	16.3
Marital status	18.4
Responsibility to dependents	25.0
Job interest/Involvement	24.8

Source Question 15f.

Later on in the questionnaire, these respondents were given a list of factors that might be of concern to them in retirement and asked to rate their degree of concern for each mentioned, ranging from very concerned to not at all concerned (Table 60). The ability to remain in their own home and their own personal health were sources of great concern, as was death or illness of spouse.

Table 60  
Factors of Concern to Retirees

	Degree of concern			
	Very	Fairly	Not too	Not at all
Number of respondents	165 (Per cent)			
Ability to remain in own home	58.6	15.7	10.6	4.2
Health	47.5	25.6	13.0	3.0
Remaining independent	50.2	19.6	13.2	5.4
Death of family members/Friends	39.6	28.6	15.4	4.8
Remaining active/Not bored	49.3	18.4	13.3	6.7
Financial position	44.5	21.1	16.3	7.3
Remaining in contact with children	45.4	18.4	10.2	13.3
Death/Illness of spouse	50.5	12.0	8.1	11.8
Loneliness	22.1	18.2	32.9	15.4
Source Questions 20e				

Respondents were queried in some detail about existing or proposed legislation concerning the right to work and their perceptions of minimum incomes needed for retired persons. They were informed that current Human Rights legislation in Ontario protects workers from dismissal for reasons of age between the ages of 40 and 65 and asked if they believed that the existing Human Rights Code should be amended to protect the rights of workers over the age of 65 and if so, if a new upper age limit should be set (Question 16). Responses indicated that 53.2 per cent of retired respondents thought the Code should be amended and, of these, 82.9 per cent thought there should be no new upper age limit; 15 people who thought there should be a new upper limit specified an average age of 68.7 years.

Without telling respondents the currently available government benefits package for people over the age of 65 with no other income, the question was asked: "By today's standards, what do you feel is the minimum monthly income that would be adequate for 1 person over the age of 65, living alone, and a couple in the same circumstances?" (Question 17a). The retired responded that an average of \$536 per month would be adequate for a single person and an average of \$798 per month adequate for a couple. These estimates were slightly higher than the averages set by the total sample.

Respondents were then informed of the actual maximum benefits available - \$310.75 to a single person, \$621.50 to a couple monthly - and asked if they thought these programs should pay more and, if so, how much more (Questions 17b, c). Of those who responded, 60.1 per cent thought the programs should be increased and by an average of \$237 to a single person and \$249 to a couple per month. Again, these were marginally above the estimations of the total sample. In addition, 72.5 per cent of respondents thought that government assistance to persons over



the age of 65 should be increased, and that this increase should be in the form of more money (63 per cent) (Questions 18b, c).

Agreement or disagreement was solicited for the proposal that an income from government and employer pensions should not only provide for a person's current needs but allow for an accumulation of assets to pass on to the next generation. Only 19.3 per cent of retired respondents agreed that government pensions should provide for savings, and only 26.6 per cent agreed that employer pensions should allow for this capability (Question 18a).

The principle of indexing pensions was explained to the respondents as was the fact that indexing would increase the cost of maintaining these pension funds to provide for increases in the cost of living. Respondents were then asked, for specific pensions, what form of indexing should be provided and how should the increased costs be met (Table 61). It was obvious that respondents were in favour of total indexing for the CPP, OAS, and to a lesser extent civil servant and employer pensions. However, federal and provincial politicians' pensions would not be indexed by the majority of respondents; at least one-quarter of the retired respondents did not want the politicians to have any pension increases tied to the cost of living.

The next question concerned membership in employer pensions and the information received or desired about them (Table 62). The 21.3 per cent of respondents who wished to receive more information about their company pension represented 17 retired people out of the 165 in the sample. This low level of interest could be a result of general lack of interest on the part of the respondents about how pensions are administered or the low percentage of now retirees who receive a pension; the information available might also be adequate for their purposes. The segment that wished to receive more pension information is 15 per cent lower than that in the total sample.

### Demographic Characteristics

On average, retired respondents were 68.4 years of age; 60 per cent were male and 40 per cent female; 66.5 per cent were now married, 5.4 per cent had never married, and 26.8 per cent were widowed; and 61.3 per cent lived in single wage-earner homes, with 24.8 per cent in two wage-earner homes. Of our retired sample, 85.2 per cent lived in a single family home, 87.9 per cent stated that they owned or were purchasing their home, and 10.3 per cent lived in rented accommodation; 78.8 per cent of the retired stated their highest level of schooling as secondary or less, and 8.4 per cent had a university education. Average total family income annually was \$10,274.

The majority of the retirees in the sample were in clerical, skilled labour, or unskilled labour groups (64.1 per cent), and 19.3 per cent of the survey sample were in professional or managerial occupa-

tions; 20.9 per cent worked in manufacturing and 13.7 per cent in community, business, or personal services; 21 per cent worked for the public service, including the armed forces.

Table 61

Retirees' Attitudes towards Total and Partial Indexing of Specific Pensions

	Federal-Provincial CPP Q.S. MPs MPPs				Civil servants	Employers' plans
Number of respondents	165					
	(Per cent)					
Pensions should be totally indexed and paid through general taxation	55	58	18	18	31	34
Pensions should be totally indexed and paid through increased contributions	11	9	5	5	12	16
Pensions should be totally indexed but did not know how to fund	7	10	7	5	8	7
Pensions should be totally indexed but not funded by either taxation or contributions	8	7	7	8	5	7
Total in favour of fully indexed pensions	81	84	37	36	56	64
Pensions should be partially indexed	1	2	10	10	8	5
Pensions should have a percentage increase provided	1	1	-	-	-	-
Did not know if any form of indexing or increase should be provided	13	11	26	28	21	23
Did not want any form of indexing or percentage increase	3	2	26	26	15	8

Source Questions 19a - e.

#### SUMMARY

One of the key findings of this research is that female Ontario residents exhibit different working patterns and job histories than do males, primarily because of their need to leave the labour force for a

period of time (or times) in order to raise children or fulfil other homemaking or family responsibilities. This results in an interrupted history, reducing the ability of women to accumulate pension benefits with any one employer and gain enough experience to enable them to merit higher salaries or transfer to occupations that require specific skills. A significant number of jobs available to women have been in occupations or industries that only rarely offer pension plans. In addition, those women who do not leave the labour force tend to be unemployed for longer periods of time than men. This could be a result of interrupted careers or the fact that they are members of two wage-earner families and face less economic pressure to find work than their male counterparts. Other findings also reinforce the dependency of women on their spouses to provide - either directly or indirectly - post-retirement income.

Table 62

Retirees' Membership in Employer Plans and Information Received or Desired

Number of respondents	165
	(Per cent)
Belonged to pension plan	48.0
Did not belong to pension plan	51.4
Did not know/No answer	.6
Received information on amount of pension	74.2
Received information on how pension funds were invested	39.6
Wished to receive more information about pensions	21.3
Did not wish to receive more information about pension	69.9
Wished to know exact amount of pension	40.8
When/at what age amount to be paid	-
All/any information regarding pension	26.3
Interest paid on contributions	11.8
Yearly statement of amount	17.8
How/where pension funds invested	23.7
How benefits are calculated	5.9
Source Questions 20a - d.	

Among both males and females in the sample, 91 per cent of the respondents have held at least one job. On average, respondents entered the labour force at age 20 and during their employment history held an average of 3.23 jobs. There appeared to be an acceleration in job mobility from generation to generation, as the younger segment of the sample the 18 to 34 age group have already held the same number of jobs as the total sample, including all those who are still working. From a post-employment income planning point of view, this increased job mobility poses real problems, as many current pension policies demand age and tenure conditions for eligibility, and tenure determines "locking-in" of employee and employer pension contributions.



Where company pension plans were offered, 94 per cent of those employees eligible to join the plan did so, indicating their desire to accumulate pension benefits. In view of this, it is interesting to note that 54 per cent of current or most recent employers offered a pension plan, compared with 26 per cent of all previous employers.

Two interpretations of this phenomenon are possible: either more employers have put pension plans in place in recent years; or as workers gain on-the-job experience there is a tendency for them to work for employers who offer pension plans.

Our research showed that 910 respondents who had ever worked did so for a total of 2,800 employers. Of these 2,800 employers, 15.4 per cent or 431 were expected to provide a pension to the respondent. Of these, 70 per cent of the pensions were to be provided by the current or most-recent employer. This points out, dramatically, the inability of employees to accumulate pension benefits from employer to employer.

It was apparent from the analysis that, on the whole, the purpose, administration, and funding of government retirement assistance is not clearly understood. This was particularly true in relation to knowledge of programs and benefits and eligibility either to contribute or to receive current benefits.

In general, respondents thought that government and employer pensions should be indexed fully to the cost of living and were willing to pay their fair share of such indexing. This willingness to "pay their own way" was expressed by respondents throughout the study, as was evidenced by the positive attitude towards generation self-funding of CPP benefits. This responsible attitude extended to those not now in the labour force, with the majority of respondents agreeing that homemakers and other adults not in the labour force should be able to contribute to the CPP and that those who drop out of the labour force to raise children should not be penalized.

Respondents, on average, felt that current government monetary assistance to those age 65 and over was not adequate. Their own estimates of adequate monthly incomes were considerably higher than government payments in October 1978. This attitude also held for general government assistance to the elderly. Most believed it should be increased in the form of more monetary assistance.

There appeared to be a real effort on the part of respondents to accumulate assets to be used in retirement, notably a house and direct savings, but this effort was controlled directly by the amount of income received during working years. From the survey, it was apparent that higher income earners were more likely to receive a pension, to be able to invest, and to be independent in retirement.

On average, retired respondents were receiving two-thirds of their pre-retirement income, and the majority (62 per cent) indicated that their monetary requirements have increased in retirement because of inflation.

In general, respondents thought that choice of retirement age should be personal, not legislated, and should depend on the individual's health, financial position, and desire to remain in the labour force.

Retired respondents placed their ability to remain in their own home above all other considerations, including health and financial position. Perhaps the current tendency towards communal senior citizens' homes should be re-examined in view of the increase expected in this segment of the population in the future.

NOTES

- (1) Statistics Canada, The Labour Force, Cat. 71-110, October 1978.
- (2) Ibid.



Appendix A  
Survey Questionnaire

RESPONDENT

NAME: \_\_\_\_\_

RESPONDENT

ADDRESS: \_\_\_\_\_

TELEPHONE NO.: \_\_\_\_\_

CITY/TOWN: \_\_\_\_\_

INTERVIEWER

NAME: \_\_\_\_\_

DATE OF

INTERVIEW: \_\_\_\_\_

INTRODUCTION: Hello, I'm \_\_\_\_\_ of Complan Research Associates.  
We are conducting a province wide study on retirement income  
planning. This is a most interesting project and we would like  
to have your opinions.

(SELECT RESPONDENT USING GRID. RE-INTRODUCE IF NECESSARY AND CONTINUE)

GRID # USED \_\_\_\_\_

1.a) Are you currently working?

YES ( ) 6-1 ASK Q.1b)

NO ( ) -2 SKIP TO Q.1g)

ASK EVERYONE CURRENTLY WORKING

b) At present, are you ..... (READ LIST - CHECK ONE ONLY)

Self-employed? ( ) 7-1

Employed by another person, company  
or organization? ( ) -2

Employed by Government (Federal,  
Provincial or Municipal)? ( ) -3

Other (SPECIFY) \_\_\_\_\_

c) On the average, during the past year, how many hours did you usually work  
each week? (READ LIST AND CHECK ONE APPROPRIATE BOX)

1 - 9 hours ( ) 8-1

10 - 29 hours ( ) -2 ASK Q.1d)

30 hours or more ( ) -3 SKIP TO Q.1e)

d) ASK THOSE WHO WORK LESS THAN 30 HOURS A WEEK

Why do you work less than 30 hours per week? (PROBE FULLY) (RECORD VERBATIM)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

e) Do you personally contribute to the Canada Pension Plan?

YES ( ) 12-1 GO TO Q.2

NO ( ) -2 GO TO Q.1f)

Don't know ( ) -3 GO TO Q.2

f) ASK THOSE WHO DO NOT CONTRIBUTE TO THE CANADA PENSION

Why don't you contribute to the Canada Pension Plan? (RECORD VERBATIM)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

1.g) ASK ONLY OF THOSE WHO ARE CURRENTLY NOT WORKING

For the purposes of this study, we have developed a definition of a retired person. (HAND RESPONDENT CARD A - DO NOT PROCEED UNTIL YOU ARE SURE THAT THE RESPONDENT UNDERSTANDS THE DEFINITION)

Why are you not working? Is it... (READ LIST)

- Because currently unemployed? ( ) 16-1 16-  
 (That is, out of work but actively looking for work) ( ) -2  
 Because temporarily laid off or on strike? ( ) -3  
 Because of illness or vacation (but have a job)? ( ) -4  
 Because retired? ( ) -5  
 Because a full-time student? ( ) -6  
 Because a homemaker? ( ) -7  
 Other (SPECIFY) \_\_\_\_\_ ( ) -7

h) IF RETIRED, ASK:

How long have you been retired? (RECORD) \_\_\_\_\_ 17-  
 18-

j) IF UNEMPLOYED, ASK:

How long have you been unemployed? (RECORD) \_\_\_\_\_ 19-  
 20-

ASK EVERYONE:

2.a) What sources of retirement income do/did you expect to have when you retire(d)? (READ LIST - CHECK ALL ANSWERS GIVEN)

(ASK FOR EACH SOURCE OF INCOME MENTIONED - HAND RESPONDENT CARD 2)

b) Will this income be/Was this income...

A result of your own financial contributions? OR

c) Your spouse's/other financial contributions? OR

d) Both your own and your spouse's/other contributions?

		Q.2a)		Q.2b)		Q.2c)	Q.2d)	
		Expected income	Not sure	Own	Spouse's	Both		
		Yes	No	Don't know	contribution	contribution		
(1)	Canada Pension Plan	( ) 21-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	21-
(2)	Old Age Security	( ) 22-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	22-
(3)	Company/employer pensions (including Government as an employer)	( ) 23-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	23-
(4)	Government annuities	( ) 24-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	24-
(5)	Veteran's Allowances	( ) 25-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	25-
(6)	Armed forces pensions	( ) 26-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	26-
(7)	Union pensions	( ) 27-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	27-
(8)	Insurance company annuities	( ) 28-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	28-
(9)	Registered retirement savings plans	( ) 29-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	29-
(10)	Credit union annuities	( ) 30-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	30-
(11)	Federal old age income supplements (G.I.S., spousal allowances)	( ) 31-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	31-
(12)	Provincial old age income supplement (Gains)	( ) 32-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	32-
(13)	Savings	( ) 33-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	33-
(14)	Investment income (incl. stocks, bonds, mortgages, real estate/other than own home, insurance policies, etc.)	( ) 34-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	34-
(15)	Post retirement employment (incl. income from hobbies)	( ) 35-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	35-
(16)	Inheritance	( ) 36-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	36-
(17)	Welfare	( ) 37-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	37-
(18)	Personally owned home	( ) 38-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	38-
(19)	Workmen's Compensation	( ) 39-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	39-
	Other (SPECIFY)	( ) 40-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	40-

2.e) Thinking of Registered Retirement Savings Plans (RRSP) ...  
Do you have such a plan now?

YES ( ) 41-1 — SKIP TO Q.2g)  
NO ( ) -2  
Don't know ( ) -3 — ASK Q.2f)

41-

f) Have you ever had an RRSP?

YES ( ) 42-1 — GO TO Q.2g)  
NO ( ) -2  
Don't know ( ) -3 — SKIP TO Q.2j)

42-

g) How many? (CIRCLE ANSWER) 1 2 3 4 5 or more

43-

h) FOR EACH RRSP, ASK:

Will you be using it for retirement purposes OR for something else?  
All or part of it? (RECORD BELOW)

	Retirement		Other	
	All	Part	All	Part
RRSP #1	( ) 44-1	( ) -2	( ) -3	( ) -4
RRSP #2	( ) 45-1	( ) -2	( ) -3	( ) -4
RRSP #3	( ) 46-1	( ) -2	( ) -3	( ) -4
RRSP #4	( ) 47-1	( ) -2	( ) -3	( ) -4
RRSP #5	( ) 48-1	( ) -2	( ) -3	( ) -4

44-

45-

46-

47-

48-

i) Do you have .... (READ LIST)

	YES	NO	Don't know
An employer pension plan in addition to an RRSP	( ) 49-1	( ) -2	( ) -3
Deferred profit-sharing plan in addition to an RRSP	( ) 50-1	( ) -2	( ) -3
A Registered Retirement Investment Fund	( ) 51-1	( ) -2	( ) -3

49-

50-

51-

ASK ALL RESPONDENTS

j) Other than contributions you may be making(have made) to the Canada Pension Plan or an employer's pension plan, in which of the following ways are you saving(did you save) for retirement? (READ LIST - RECORD ALL ANSWERS GIVEN)

Government annuities	( ) 52-1	
Union pensions	( ) -2	
Insurance company annuities	( ) -3	
Registered Retirement Savings Plan	( ) -4	GO TO Q.3
Credit Union annuities	( ) -5	
Savings	( ) -6	
Investments (incl. stocks, bonds, mortgages, etc.)	( ) -7	
Personally-owned house	( ) -8	
Other (SPECIFY) _____	( ) -9	
Not saving(did not save) for retirement	( ) -0	ASK Q.2k)

52-

k) You stated you are not putting(did not put) monies aside for retirement, could you tell me why? (RECORD BELOW)

No money available to put into savings	( ) 53-1
Never thought about retirement	( ) -2
Economic conditions are(were) not the best for investments	( ) -3
Employment has(had) not been continuous or stable	( ) -4
Too many other priorities	( ) -5
Other (SPECIFY) _____	( ) -6

53-



- 3.a) Since the age of 18, (excluding any summer or other part-time employment you may have had as a student), did you ...

Ever work for yourself or another company, organization or government either full or part-time?

YES ( ) 54-1—ASK Q.3b)

NO

( ) -2

SKIP  
TO Q.5

54-

Don't know ( ) -3

- b) How old were you when you first entered the work force after leaving school?

55-

RECORD \_\_\_\_\_

56-

- c) Now take respondent through their entire work history, beginning with their FIRST employer since leaving school. Include self employment as an employer. (RECORD ANSWERS ON CHART BELOW)

Thinking back to your first employer since leaving school, can you tell me how long you stayed there?

- d) How much time was there between your first employer and employer #2?

IF MORE THAN 1 MONTH IN Q.3d), ASK:

- e) What were your reasons for not working during this period? (READ LIST)

(REPEAT Q.3c), d) and e) FOR EVERY EMPLOYER)

Em- ployer #	Duration in years	c) d) TIME BETWEEN EMPLOYERS		e) BETWEEN EMPLOYER HISTORY							Other (Specify)
		None (1 mth or less)	OR # month	Lay- off/ strike	Mater- nity/ Home- maker	Vacation/ leave of absence	Lengthy illness	Back to school	Retired		
(First)											
1	(57,58)	( )	(59,60)	( ) 61-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
2	(62,63)	( )	(64,65)	( ) 66-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
3	(67,68)	( )	(69,70)	( ) 71-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
4	(72,73)	( )	(74,75)	( ) 76-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
5	(6,7) CARD 2	( )	(8,9)	( ) 10-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
6	(11,12)	( )	(13,14)	( ) 15-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
7	(16,17)	( )	(18,19)	( ) 20-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
8	(21,22)	( )	(23,24)	( ) 25-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
9	(26,27)	( )	(28,29)	( ) 30-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
10	(31,32)	( )	(33,34)	( ) 35-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
11	(36,37)	( )	(38,39)	( ) 40-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
12	(41,42)	( )	(43,44)	( ) 45-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
13	(46,47)	( )	(48,49)	( ) 50-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
14	(51,52)	( )	(53,54)	( ) 55-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	
15	(56,57)	( )	(58,59)	( ) 60-1	( ) -2	( ) -3	( ) -4	( ) -5	( ) -6	( ) 7	

- f) At which of these employers were you when you were 25 years of age? 45 years of age? (IF NOT WORKING AT AGE 25/45 RECORD NEXT EMPLOYER #)

25 years Employer #

(61,62)

45 years Employer #

(63,64)

- g) Have you ever been self-employed? YES ( ) 6-1 NO ( ) -2 SKIP TO Q.4

ASK IF HAD PERIODS OF SELF EMPLOYMENT

CARD 3

6-

- h) While you are/were self employed, do/did you contribute to an RRSP?

IF "YES" - for yourself or your spouse?

YES

NO

Don't know

For yourself

( ) 7-1

( ) -2

( ) -3

For spouse/other

( ) 8-1

( ) -2

( ) -3

7-

8-

Total # employers ( )	Q.4b) Self- employed YES NO ( ) ( )	(c) No. of years/ months worked	(d) Worked full/ part time	(e) Has/ had pension plan	(f) Are/ was eligible	(g) Are/ was member	(h) Chose not to join	(i) Contri- buted	(j) With- drew contri- bution	(k) Save Invest Spend 1) 2) 3)	(l) Permitted to with- draw	(m) Do/ will receive pension	(n) Employ- Upon No er re- gives quest cord D.K. Other
cc 9,10 Q.4a) No.													
Employer #1 (present/ most recent)	YES NO 11-1 11-2 ( ) ( )	13 yrs Full( )-1 Part( )-2 12-	14 YES( )-1 NO( )-2	15 YES( )-1 NO( )-2	16 YES( )-1 NO( )-2	17 YES( )-1 NO( )-2	18 YES( )-1 NO( )-2	19 YES( )-1 NO( )-2 not left	20 ( )-1 ( )-2 ( )-3	21 YES( )-1 NO( )-2	22 YES( )-1 NO( )-2	23 ( )-1 ( )-2 ( )-3 ( )-4 ( )-5	
Employer #2	( ) 24-1 ( )-2	26 yrs Full( )-1 Part( )-2 25-	27 YES( )-1 NO( )-2	28 YES( )-1 NO( )-2	29 YES( )-1 NO( )-2	30 YES( )-1 NO( )-2	31 YES( )-1 NO( )-2	32 YES( )-1 NO( )-2	33 ( )-1 ( )-2 ( )-3	34 YES( )-1 NO( )-2	35 YES( )-1 NO( )-2	36 ( )-1 ( )-2 ( )-3 ( )-4 ( )-5	
Employer #3	( ) 37-1 ( )-2	39 yrs Full( )-1 Part( )-2 38-	40 YES( )-1 NO( )-2	41 YES( )-1 NO( )-2	42 YES( )-1 NO( )-2	43 YES( )-1 NO( )-2	44 YES( )-1 NO( )-2	45 YES( )-1 NO( )-2	46 ( )-1 ( )-2 ( )-3	47 YES( )-1 NO( )-2	48 YES( )-1 NO( )-2	49 ( )-1 ( )-2 ( )-3 ( )-4 ( )-5	
Employer #4	( ) 50-1 ( )-2	52 yrs Full( )-1 Part( )-2 51-	53 YES( )-1 NO( )-2	54 YES( )-1 NO( )-2	55 YES( )-1 NO( )-2	56 YES( )-1 NO( )-2	57 YES( )-1 NO( )-2	58 YES( )-1 NO( )-2	59 ( )-1 ( )-2 ( )-3	60 YES( )-1 NO( )-2	61 YES( )-1 NO( )-2	62 ( )-1 ( )-2 ( )-3 ( )-4 ( )-5	
Employer #5	( ) 63-1 ( )-2	65 yrs Full( )-1 Part( )-2 64-	66 YES( )-1 NO( )-2	67 YES( )-1 NO( )-2	68 YES( )-1 NO( )-2	69 YES( )-1 NO( )-2	70 YES( )-1 NO( )-2	71 YES( )-1 NO( )-2	72 ( )-1 ( )-2 ( )-3	73 YES( )-1 NO( )-2	74 YES( )-1 NO( )-2	75 ( )-1 ( )-2 ( )-3 ( )-4 ( )-5	
Employer #6	( ) 6-1 ( )-2 CARD 4	8 yrs Full( )-1 Part( )-2 7-	9 YES( )-1 NO( )-2	10 YES( )-1 NO( )-2	11 YES( )-1 NO( )-2	12 YES( )-1 NO( )-2	13 YES( )-1 NO( )-2	14 YES( )-1 NO( )-2	15 ( )-1 ( )-2 ( )-3	16 YES( )-1 NO( )-2	17 YES( )-1 NO( )-2	18 ( )-1 ( )-2 ( )-3 ( )-4 ( )-5	

(HAND RESPONDENT CARD A - DEFINITION OF A RETIRED PERSON)

ASK ALL

- 5.a) If a person has been contributing to an employer pension plan and leaves that employer before the age of retirement, in your opinion should they be required to leave any portion of these contributions in the plan so that when they retire they will receive a pension from this employer?
- YES ( ) 19-1 GO TO Q.5(b) 19-  
NO ( ) -2 SKIP TO Q.6
- b) How much should they be required to leave in the plan. Would you say 25%, 50%, 75% or 100%?
- 25% ( ) 20-1 75% ( ) -3 20-  
50% ( ) -2 100% ( ) -4
- c) Should this condition apply no matter at what age they leave the job?
- YES ( ) 21-1 21-  
NO ( ) -2 >What age? \_\_\_\_\_ years of age. 22-  
Don't know ( ) -3 23-
- d) Should this condition apply no matter how long they have worked for this employer?
- YES ( ) 24-1 24-  
NO ( ) -2 >How long? \_\_\_\_\_ years. 25-  
Don't know ( ) -3 26-

ASK ALL

- 6.a) If a person belongs to an employer pension plan and leaves the employer before the age of retirement, should the employer be required to leave any part of these contributions (made by the employer on behalf of the employee) in the pension plan so that when the employee retires they receive a pension from that employer?
- YES ( ) 27-1 GO TO Q.6b) 27-  
NO ( ) -2 SKIP TO Q.7
- b) How much should the employer be required to leave in the plan. Would you say 25%, 50%, 75% or 100%?
- 25% ( ) 28-1 75% ( ) -3 28-  
50% ( ) -2 100% ( ) -4
- c) Should this condition apply no matter at what age the employee leaves the employer?
- YES ( ) 29-1 29-  
NO ( ) -2 >What age? \_\_\_\_\_ years of age. 30-  
Don't know ( ) -3 31-
- d) Should this condition apply no matter how long the employee has worked for the employer?
- YES ( ) 32-1 32-  
NO ( ) -2 >How long? \_\_\_\_\_ years. 33-  
Don't know ( ) -3 34-



- 7.a) Do you feel that in the case where only the employer has contributed to an employees' pension plan, that the employee should be allowed to withdraw any portion of these contributions from the plan when they leave the employer before the age of retirement?
- YES ( ) 35-1 — ASK Q.7b) 35-
- NO ( ) -2 — SKIP TO Q.8
- Don't know ( ) -3
- b) Approximately, what percent of an employer's contributions should the employee be allowed to withdraw? Would you say 25%, 50%, 75% or 100%?
- 25% ( ) 36-1 75% ( ) -3 36-
- 50% ( ) -2 100% ( ) -4 Other \_\_\_\_\_% ( )
- c) Should this condition apply no matter at what age the employee leaves the employer?
- YES ( ) 37-1 37-
- NO ( ) -2 → What age? \_\_\_\_\_ years of age. 38-
- Don't know ( ) -3 39-
- d) Should this condition apply no matter how long the employee has worked for the employer?
- YES ( ) 40-1 40-
- NO ( ) -2 → How long? \_\_\_\_\_ years. 41-
- Don't know ( ) -3 42-
- 8.a) Tell me what you think is the current maximum monthly payment paid to one person (retiring this year) by the Canada Pension Plan. (DO NOT READ LIST - CHECK APPROPRIATE BOX)
- More than \$300. ( ) 43-1 43-
- \$200 - \$299 ( ) -2
- \$100 - \$199 ( ) -3
- Less than \$100 ( ) -4
- Don't know ( ) -5
- b) In fact, at the present time an individual aged 65, who has contributed the maximum amount to the Canada Pension Plan - receives \$194.44 monthly. Do you think this benefit payment is ....
- Too high ( ) 44-1 44-
- About right ( ) -2
- Too low ( ) -3
- Don't know ( ) -4
- ASK Q.8c, 8d, 8e and 8f FOR RETIRED PERSONS
- c) Since you retired, have your needs for income for your own consumption.....
- Increased ( ) 45-1 — ASK Q.8d) 45-
- Decreased ( ) -2
- Remained the same ( ) -3 SKIP TO Q.8f)
- d) What do you feel is the major factor that has caused your income needs to decrease/increase? (PROBE FULLY)
- \_\_\_\_\_ 46-
- \_\_\_\_\_ 47-
- \_\_\_\_\_ 48-
- \_\_\_\_\_ 49-

IF INFLATION/RISE IN COST OF LIVING MENTIONED IN Q.8d), ASK:

- 8.e) In what way has inflation/raise in cost of living affected your standard of living? (PROBE FULLY)
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- 50-  
51-
- f) Can you tell me approximately what percent of your pre-retirement income you are receiving now?
- \_\_\_\_\_ %
- 52-  
53-
- ASK ALL
- g) Are you prepared(would you have been prepared) to pay higher contributions to the Canada Pension Plan in order to receive higher benefits at age 65?
- YES ( ) 54-1
- NO ( ) -2
- Don't know ( ) -3
9. At the present time, in order to receive retirement benefits under the Canada Pension Plan, and the Old Age Security, a person must have reached age 65. If an individual elects to retire (as per Card A) before age 65, should the benefits from the Canada Pension and Old Age Security ..... (ASK BOTH a) and b) )
- a) Be withheld until age 65? ( ) 55-1
- OR Be paid immediately upon retirement? ( ) -2
- b) Pay an equal amount to the person who retires at age 65? ( ) -3
- OR Pay an amount less than to a person who retires at age 65? ( ) -4
10. A person who continues to work after the age of 65 is able to collect Canada Pension Plan benefits while still at work. Do you agree or disagree with this?
- Agree ( ) 56-1 Disagree ( ) -2 Don't know ( ) -3
- 56-
11. At present, each contributor to the Canada Pension Plan may drop up to 15% of their low-earning years from total years worked, for calculation of the retirement pension. It has been proposed, that, in addition, people who drop out of the work force to raise their children up to the age of 7 should be allowed to also drop these child-raising years from the pension calculation in order that their eventual pension will not be decreased. Do you disagree strongly, disagree somewhat, agree somewhat, or agree strongly with this proposal?
- Disagree strongly ( ) 57-1 Agree somewhat ( ) -3
- Disagree somewhat ( ) -2 Agree strongly ( ) -4
- 57-
12. It has been suggested that housewives should be able to contribute to the Canada Pension Plan. Do you agree or disagree with this proposal?
- Agree ( ) 58-1 Disagree ( ) -2 Don't know ( ) -3
- 58-
13. It has been suggested that adults who are not in the labour force should still be allowed to contribute to the Canada Pension Plan. Do you agree or disagree with this proposal?
- Agree ( ) 59-1 Disagree ( ) -2 Don't know ( ) -3
- 59-

(HAND RESPONDENT CARD 14)

- 14.a) Here is a card which lists the present administration of the plan and an alternative method. (READ TO RESPONDENT, MAKING SURE THEY UNDERSTAND AND ASK)

Which of these methods do you prefer/would you have preferred?

- (a) Cross-generation funding ( ) 60-1 SKIP TO Q.15a)  
(b) Generation self-funding ( ) -2 GO TO Q.14b)  
Don't know ( ) -3

60-

- b) Would you have been willing to increase your Canada Pension Plan contribution in order to fully pay for your own Canada Pension Plan retirement pension?

YES ( ) 61-1 NO ( ) -2 Don't know ( ) -3

61-

(NOW, WOULD YOU PLEASE REFER TO CARD A)

- 15.a) Based on the definition on the card, at what age do you plan to (did you) retire?

- Do not/did not plan to retire ( ) 62-1 SKIP TO Q.16a)  
Under 50 years of age ( ) -2  
51 - 55 years of age ( ) -3  
56 - 60 years of age ( ) -4  
61 - 65 years of age ( ) -5  
65 years of age ( ) -6  
66 - 70 years of age ( ) -7  
71 years of age and over ( ) -8  
Don't know ( ) -9  
Other (SPECIFY) \_\_\_\_\_ ( ) -0

62-

IF RETIRED, ASK Q.15b) - IF NOT, SKIP TO Q.15f)

- b) At this time, do you feel you should have retired .....

Earlier ( ) 63-1

Later ( ) -2

At the same age ( ) -3 ASK Q.15c)

63-

- c) Why do you say this?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

64-

65-

66-

67-

- d) At what age do you now think you should have retired?

\_\_\_\_\_

68-

69-

- e) Why do you say this?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

70-

71-

72-

73-

ASK ALL

- 15.f) If your decision to retire at a particular age was entirely your own choice (that is, unaffected by company policy or government legislation) what factors would affect your choice of retirement age? (READ LIST - CHECK ALL APPROPRIATE ANSWERS)

- State of your health ( ) 74-1  
Your financial position ( ) -2  
Level of your other activities ( ) -3  
(hobby, social, etc.)  
Your marital status ( ) -4  
Responsibility to your dependents ( ) -5  
Your job interest/involvement ( ) -6

74-



- 16.a) The Human Rights Code protects people against firing or forcible retirement for reasons of age between the ages of 40-65, (subject to certain job exceptions such as fire fighting, airline pilot, etc.). Do you believe this code should be amended to provide the same protection to those workers over the age of 65?

YES ( ) 6-1 ASK Q.16b) 6-  
 NO ( ) -2 SKIP TO Q.17  
 Don't know ( ) -3

- b) Should there be a new upper age limit, or should there be no upper age limit?

YES, should be upper age limit ( ) 7-1 ASK Q.16c) 7-  
 NO, should be no upper age limit ( ) -2 SKIP TO Q.17

- c) What should this age limit be? (WRITE IN BELOW)

\_\_\_\_\_ years of age 8-  
 9-

- 17.a) By today's standards, what do you feel is the minimum total monthly income that would be adequate for .....(WRITE IN BELOW)

One person over 65, living alone \_\_\_\_\_ 10-  
 Two people over 65 living together \_\_\_\_\_ 11-

- b) At the present time, government programs (such as Old Age Security, Guaranteed Income Supplement, GAINS) provide to people with no other income the amount of \$310.75/month to a single person, 65 years of age or over, and \$621.50/month to a couple, 65 years of age or over, PLUS free OHIP premiums and a free drug plan.

Do you think these programs should pay more?

YES ( ) 12-1 ASK Q.17c) 12-  
 NO ( ) -2  
 Don't know ( ) -3 SKIP TO Q.18a)

- c) How much more per month...

To a single person \$ \_\_\_\_\_ 13-  
 To a couple \$ \_\_\_\_\_ 14-

- 18.a) It has been suggested that retirement income from government pensions should not only provide for a person's current needs but allow for an accumulation of assets to pass on to the next generation? Do you agree or disagree with this proposal? How about employer pensions?

	<u>Government pensions</u>	<u>Employer pensions</u>
Agree	( ) 15-1	( ) 16-1
Disagree	( ) -2	( ) -2
Don't know	( ) -3	( ) -3

- b) Do you think that Government Assistance to the people over 65 years of age should be increased?

YES ( ) 17-1 ASK Q.18c) 17-  
 NO ( ) -2  
 Don't know ( ) -3 SKIP TO Q.19

- c) Should this assistance be in terms of .....

More money to buy goods and services? ( ) 18-1 18-

OR

More subsidized services made available? ( ) -2

19. I'd like you to think about private (employer) pensions and government pensions (Canada Pension and Old Age Security). At present, all government pensions are indexed, as are the pensions for Federal and Provincial members of Parliament. That is, these benefit payments rise to offset increases in the cost of living. Obviously, these increases increase the cost of maintaining these benefits.

a) Do you believe that....

READ LIST	<u>YES</u>	<u>Depends on the cost</u>	<u>NO</u>	<u>Don't know</u>	
the Canada Pension Plan should be indexed?	( ) 19-1	( ) -2	( ) -3	( ) -4	19-
Old Age Security should be indexed?	( ) 20-1	( ) -2	( ) -3	( ) -4	20-
Federal MP Pensions should be indexed?	( ) 21-1	( ) -2	( ) -3	( ) -4	21-
Provincial MP Pensions should be indexed?	( ) 22-1	(ASK Q.19 b) ( ) -2	(ASK Q.19 b) ( ) -3	(ASK Q.19 d) ( ) -4	(SKIP TO Q.20) 22-
Federal/Provincial Civil Servant's Pensions should be indexed?	( ) 23-1	( ) -2	( ) -3	( ) -4	23-
Employer Pensions should be indexed?	( ) 24-1	( ) -2	( ) -3	( ) -4	24-

FOR EACH TYPE OF PENSION IN a) WHERE RESPONDENT STATED SHOULD BE INDEXED OR  
DEPENDS ON COST, ASK Q.19b)

- b) Would you be prepared to pay the additional cost of indexing (type) Pension through general taxation? (That is, all Canadian taxpayers would pay.).

	<u>YES</u>	<u>NO</u>	<u>Don't know</u>	
Canada Pension	( ) 25-1	( ) -2	( ) -3	25-
Old Age Security	( ) 26-1	( ) -2	( ) -3	26-
Federal MP Pensions	( ) 27-1	(SKIP TO Q.20) ( ) -2	(ASK Q.19 c) ( ) -3	(ASK Q.19 c) 27-
Provincial MP Pensions	( ) 28-1	( ) -2	( ) -3	28-
Federal/Provincial Civil Servants' Pensions	( ) 29-1	( ) -2	( ) -3	29-
Employer Pensions	( ) 30-1	( ) -2	( ) -3	30-

FOR EACH TYPE OF PENSION IN b) WHERE RESPONDENT SAID "NO" OR "DON'T KNOW" ASK Q.19c)

- c) Would you be prepared to pay the additional cost of indexing (type) Pension through increased contributions? (That is, only those contributing to the plan would pay.).

	<u>YES</u>	<u>NO</u>	<u>Don't know</u>	
Canada Pension	( ) 31-1	( ) -2	( ) -3	31-
Old Age Security	( ) 32-1	( ) -2	( ) -3	32-
Federal MP Pensions	( ) 33-1	( ) -2	( ) -3	33-
Provincial MP Pensions	( ) 34-1	( ) -2	( ) -3	34-
Federal/Provincial Civil Servant's Pensions	( ) 35-1	( ) -2	( ) -3	35-
Employer Pensions	( ) 36-1	( ) -2	( ) -3	36-

REFER TO Q.19a) AND ASK d) FOR EACH PENSION THAT RESPONDENT STATED SHOULD NOT BE INDEXED

- 19.d) Do you believe that some part of (type) Pension should be indexed? (Up to a specified dollar limit).

	YES	NO	Don't know	
Canada Pension	( ) 37-1	( ) -2	( ) -3	37-
Old Age Security	( ) 38-1	( ) -2	( ) -3	38-
Federal MP Pensions	( ) 39-1	( ) -2	( ) -3	39-
Provincial MP Pensions	( ) 40-1	( ) -2	( ) -3	40-
Federal/Provincial Civil Servants' Pensions	( ) 41-1	( ) -2	( ) -3	41-
Employer Pensions	( ) 42-1	( ) -2	( ) -3	42-

ASK FOR EACH TYPE OF PENSION IN d) WHERE RESPONDENT STATED PART SHOULD NOT BE INDEXED ASK e)

- e) Do you believe that some percentage increase should be provide for (type) Pension? (Not necessarily enough to fully offset rises in the cost of living.)

	YES	NO	Don't know	
Canada Pension	( ) 43-1	( ) -2	( ) -3	43-
Old Age Security	( ) 44-1	( ) -2	( ) -3	44-
Federal MP Pensions	( ) 45-1	( ) -2	( ) -3	45-
Provincial MP Pensions	( ) 46-1	( ) -2	( ) -3	46-
Federal/Provincial Civil Servants' Pensions	( ) 47-1	( ) -2	( ) -3	47-
Employer Pensions	( ) 48-1	( ) -2	( ) -3	48-

ASK ALL:

20. Do you/did you belong to an employer pension plan?

YES	( ) 49-1	ASK Q.20b)	NO	( ) -2	
			Don't know	( ) -3	SKIP TO Q 20 E

- b) Do you/did you receive information from your employer regarding

	YES	NO	
(a) the amount of pension you would receive?	( ) 50-1	( ) -2	50-
(b) how the pension fund monies were invested?	( ) 51-1	( ) -2	51-

- c) Do you wish to (you had) receive(d) more information about your employer's pension?

YES	( ) 52-1	ASK Q.20d)	52-
NO	( ) -2	SKIP TO PAGE 13	
Don't know	( ) -3		

- 20.d) What kinds of information do you/did you want regarding your pension? (PROBE FULLY)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ASK RETIRED RESPONDENTS ONLY

IF NOT RETIRED SKIP Q.21

- e) I am going to read you a list of some factors that might be of concern to you in your retirement. For each one I read please tell me if you are very concerned, fairly concerned, not too concerned or not at all concerned? (HAND RESPONDENT CARD B - READ LIST - RECORD)

	Very concerned	Fairly concerned	Not too concerned	Not at all concerned	
Your health	( ) 55-1	( ) -2	( ) -3	( ) -4	55-
Death of family members or friends	( ) 56-1	( ) -2	( ) -3	( ) -4	56-
Ability to remain in contact with your children	( ) 57-1	( ) -2	( ) -3	( ) -4	57-
Loneliness	( ) 58-1	( ) -2	( ) -3	( ) -4	58-
Ability to remain independent	( ) 59-1	( ) -2	( ) -3	( ) -4	59-
Death/illness of your spouse	( ) 60-1	( ) -2	( ) -3	( ) -4	60-
Ability to remain in your own home	( ) 61-1	( ) -2	( ) -3	( ) -4	61-
Ability to remain active/not be bored	( ) 62-1	( ) -2	( ) -3	( ) -4	62-
Your financial position	( ) 63-1	( ) -2	( ) -3	( ) -4	63-

- f) Are there any others? \_\_\_\_\_

## DEMOGRAPHICS

RECORD SEX: MALE ( )6-1 FEMALE ( )-2

THESE QUESTIONS ARE FOR CLASSIFICATION PURPOSES:

6-

21. I am going to read you a list of age categories. Would you please tell me the one which includes your age?

18-24 years of age ( )7-1  
 25-34 ( ) -2 55-64 years of age ( )-5  
 35-44 ( ) -3 65-74 ( )-6  
 45-54 ( ) -4 75 and over ( )-7

7-

22. What is your present marital status?

Never married ( )8-1 Divorced ( )-4  
 Now married ( ) -2 Widowed ( )-5  
 Separated ( ) -3 Other (SPECIFY) \_\_\_\_\_ ( )-6

8-

23. How many wage earners are there in this household/were there in this household during your working career? (WRITE IN BELOW)

9-  
10-

24. What kind of work did you do in your most recent job? Can you briefly describe this job?

11-  
12-

25. Which of these types of industry was this job in? (HAND RESPONDENT CARD 25)

(1) Agriculture ( ) (9) Retail trade ( )  
 (2) Forestry ( ) (10) Finance, insurance, real estate ( )  
 (3) Fishing/trapping ( ) (11) Community, business and personal services (incl. Doctors, etc.) ( )  
 (4) Mines, quarries, oil wells ( ) (12) Federal government (incl. armed forces) ( )  
 (5) Manufacturing industries ( ) (13) Ontario government ( )  
 (6) Construction ( ) (14) Municipal government ( )  
 (7) Transportation, communication, other utilities ( ) (15) Self-employed ( )  
 (8) Wholesale trade ( ) (16) Other (SPECIFY) \_\_\_\_\_ ( )

13-  
14-

26. Do you now live in.... (READ LIST)

A single-family dwelling ( )15-1  
 A semi-detached double dwelling ( ) -2  
 A duplex ( ) -3  
 A townhouse/maisonette multiple dwelling ( ) -4  
 A low-rise apt. - (under 5 stories) ( ) -5  
 A high-rise apt. (over 5 stories) ( ) -6  
 Senior citizens' housing ( ) -7  
 Nursing home ( ) -8  
 Other (SPECIFY) \_\_\_\_\_ ( ) -9

15-



27. Is this dwelling .....
- |                            |          |     |
|----------------------------|----------|-----|
| Owned, or being purchased  | ( ) 16-1 | 16- |
| Rented (without a subsidy) | ( ) -2   |     |
| Rented (with a subsidy)    | ( ) -3   |     |
28. What is the highest level of schooling you have completed? (READ LIST)
- |  |          |     |
|--|----------|-----|
| Elementary (public) school             | ( ) 17-1 | 17- |
| Secondary (high) school                | ( ) -2   |     |
| Post-secondary (other than university) | ( ) -3   |     |
| University (undergraduate degree)      | ( ) -4   |     |
| University (graduate degree)           | ( ) -5   |     |
29. I am going to give you a list of income ranges. Would you first tell me your total personal annual income? Just give me the # beside the category.
- And second, your total family annual income? Please include income from all sources including investments, pensions, etc.  
(READ LIST - CHECK ONE FOR EACH. IF SINGLE-WAGE-EARNER HOUSEHOLD, CHECK TOTAL COLUMN AS FOR PERSONAL)
- |                          | Personal | Total family |     |
|--------------------------|----------|--------------|-----|
| (1) Under \$1,000        | ( ) 18-1 | ( ) 20-1     | 18- |
| (2) \$1,000 - \$1,999    | ( ) -2   | ( ) -2       | 19- |
| (3) \$2,000 - \$2,999    | ( ) -3   | ( ) -3       |     |
| (4) \$3,000 - \$3,999    | ( ) -4   | ( ) -4       |     |
| (5) \$4,000 - \$4,999    | ( ) -5   | ( ) -5       | 20- |
| (6) \$5,000 - \$5,999    | ( ) -6   | ( ) -6       | 21- |
| (7) \$6,000 - \$6,999    | ( ) -7   | ( ) -7       |     |
| (8) \$7,000 - \$7,999    | ( ) -8   | ( ) -8       |     |
| (9) \$8,000 - \$8,999    | ( ) -9   | ( ) -9       |     |
| (10) \$9,000 - \$9,999   | ( ) -0   | ( ) -0       |     |
| (11) \$10,000 - \$10,999 | ( ) 19-1 | ( ) 21-1     |     |
| (12) \$11,000 - \$11,999 | ( ) -2   | ( ) -2       |     |
| (13) \$12,000 - \$12,999 | ( ) -3   | ( ) -3       |     |
| (14) \$13,000 - \$13,999 | ( ) -4   | ( ) -4       |     |
| (15) \$14,000 - \$14,999 | ( ) -5   | ( ) -5       |     |
| (16) \$15,000 - \$19,999 | ( ) -6   | ( ) -6       |     |
| (17) \$20,000 - \$24,999 | ( ) -7   | ( ) -7       |     |
| (18) \$25,000 - \$29,999 | ( ) -8   | ( ) -8       |     |
| (19) \$30,000 and over   | ( ) -9   | ( ) -9       |     |
| Refused                  | ( ) -0   | ( ) -0       |     |
| Don't know               | ( ) -+   | ( ) -+       | 22- |
30. — In what country were you born? \_\_\_\_\_
- Of what country are you presently a citizen? \_\_\_\_\_
- If not Canada,
- How long have you been in this country? \_\_\_\_\_
31. What language do you use most frequently?
- In the home \_\_\_\_\_
- At work \_\_\_\_\_

THANK YOU FOR YOUR CO-OPERATION!

Appendix B  
Cards Accompanying Questionnaire

Card A

For the purposes of this study, a person is considered to be retired if

- (a) Less than 50 per cent (or one-half) of their total income is from paid employment and
- (b) Pension income other than a disability pension is received.

Card B

Your health

Death of family members or friends

Ability to remain in contact with your children

Loneliness

Ability to remain independent

Death/illness of your spouse

Ability to remain in your own home

Ability to remain active/not be bored

Your financial position

Card 2

A result of your own financial contributions?

Your spouse's/other financial contributions?

Both your own AND your spouse's/other contributions?

Card 14

- a) Under the present administration of the Canada Pension Plan today's workers, through their contributions to the plan, pay for the pensions of those workers who have retired. In turn, tomorrow's workers through contributions will pay for the retirement pensions of those presently working.
- b) An alternative method of funding would be to increase individual contributions to the Canada Pension Plan so that each generation of workers would fully pay for their own retirement pensions.

Card 25

- |   |   |
|---|---|
| (1) Agriculture                                       | (9) Retail trade  |
| (2) Forestry  | (10) Finance, insurance, and<br>real estate                                 |
| (3) Fishing/trapping                                  | (11) Community, business, and<br>personal services<br>(incl. doctors, etc.) |
| (4) Mines, quarries, oil wells                        | (12) Federal government<br>(incl. armed forces)                             |
| (5) Manufacturing industries                          | (13) Ontario government   |
| (6) Construction                                      | (14) Municipal government   |
| (7) Transportation, communication,<br>other utilities | (15) Self-employed  |
| (8) Wholesale trade                                   |   |

Card 29

- |                        |                          |
|------------------------|--------------------------|
| (1) Under \$1,000      | (11) \$10,000 - \$10,999 |
| (2) \$1,000 - \$1,999  | (12) \$11,000 - \$11,999 |
| (3) \$2,000 - \$2,999  | (13) \$12,000 - \$12,999 |
| (4) \$3,000 - \$3,999  | (14) \$13,000 - \$13,999 |
| (5) \$4,000 - \$4,999  | (15) \$14,000 - \$14,999 |
| (6) \$5,000 - \$5,999  | (16) \$15,000 - \$19,999 |
| (7) \$6,000 - \$6,999  | (17) \$20,000 - \$24,999 |
| (8) \$7,000 - \$7,999  | (18) \$25,000 - \$29,999 |
| (9) \$8,000 - \$8,999  | (19) \$30,000 and over   |
| (10) \$9,000 - \$9,999 |                          |

Appendix C - Confidence Limits

Size of Sample Necessary to be Practically Sure (9 times out of 10) of Accuracy Within Limits Shown  $N = \frac{2.7225 p q}{(1.65)^2}$

Percentage limits	Percentage values of p and q										Percentage limits	
	5/95	10/90	15/85	20/80	25/75	30/70	35/65	40/60	45/55	50/50		
						(Number of interviews)						
0.6	3,592	6,806	9,642	12,100	14,180	15,881	17,204	18,150	18,717	18,906		0.6
0.8	2,021	3,829	5,424	6,806	7,976	8,933	9,678	10,209	10,528	10,635		0.8
1.0	1,293	2,450	3,471	4,356	5,105	5,717	6,194	6,534	6,738	6,806		1.0
1.2	898	1,702	2,411	3,025	3,545	3,970	4,301	4,538	4,679	4,727		1.2
1.4	660	1,250	1,771	2,222	2,604	2,917	3,106	3,334	3,438	3,473		1.4
1.6	505	957	1,356	1,702	1,994	2,233	2,419	2,552	2,632	2,659		1.6
1.8	399	756	1,071	1,344	1,576	1,765	1,912	2,017	2,080	2,101		1.8
2.0	323	613	868	1,069	1,276	1,429	1,548	1,634	1,685	1,702		2.0
2.2	267	506	717	900	1,055	1,181	1,280	1,350	1,392	1,406		2.2
2.4	225	425	603	756	886	993	1,075	1,134	1,170	1,182		2.4
2.6	191	362	513	644	755	846	916	967	997	1,007		2.6
2.8	165	313	443	556	651	729	790	833	859	868		2.8
3.0	144	272	386	484	567	635	688	726	749	756		3.0
3.2	126	239	339	425	499	558	605	638	658	665		3.2
3.4	112	212	300	377	442	495	536	563	583	589		3.4
3.6	100	189	268	336	394	441	478	504	520	525		3.6
3.8	90	170	240	302	354	396	429	452	467	471		3.8
4.0	81	153	217	272	319	357	387	408	421	425		4.0
4.2	73	139	197	247	289	324	351	370	382	386		4.2
4.4	67	127	179	225	264	295	320	338	348	352		4.4
4.6	61	116	164	206	241	270	293	309	318	322		4.6
4.8	56	106	151	189	222	248	269	284	292	295		4.8
5.0	52	98	139	174	204	229	248	261	270	272		5.0
5.5	43	81	115	144	169	189	205	216	223	225		5.5
6.0	36	68	96	121	142	159	172	182	187	189		6.0
6.5	31	58	82	103	121	135	147	155	159	161		6.5
7.0	26	50	71	89	104	117	126	133	138	139		7.0
7.5	23	44	62	77	91	102	110	116	120	121		7.5
8.0	20	38	54	68	80	89	97	102	105	106		8.0
8.5	18	34	48	60	71	79	86	90	93	94		8.5
9.0	16	30	43	54	63	71	76	81	83	84		9.0
9.5	14	27	38	48	57	63	69	72	75	75		9.5
0.0	13	25	35	44	51	57	62	65	67	68		10.0
15.0	6	11	15	19	23	25	28	29	30	30		15.0



Appendix D - Sample Design

Sample = 1,000	Total		Population strata(b)						
	population(a)		100,000-400,000				1,000-9,999		Farm
			500,000+	100,000-400,000	30,000-99,999	10,000-29,999	1,000-9,999	Rural non-farm	
Eastern Ontario S=	1,149,300 139		455,370 55 Ottawa	- -	160,050 20 Kingston Cornwall	93,045 11 Pembroke	124,045 15 Arnprior Carleton Place	266,985 32	49,780 6
Hamilton Peninsula S=	1,567,705 190		67,445 8 Oakville	1,081,615 132 Metropolitan Hamilton St. Catharines	69,005 8 Brantford	58,910 7 Port Colborne	76,380 9 Paris	175,935 21	38,395 5
Metropolitan Toronto S=	2,124,295 257		2,124,295 257	-	-	-	-	-	-
Southwest Ontario S=	995,235 120		- -	459,300 55 London Windsor	109,820 13 Sarnia	76,285 10 St. Thomas	90,510 11 Tilbury	192,550 23	66,780 8
Central/Bruce S=	1,725,225 209		172,165 21 Markham	379,700 46 Kitchen- Waterloo Oshawa	216,290 26 North Bay Peterboro	148,865 18 Stratford Owen Sound	238,102 29 Bracebridge Hanover	456,045 55	114,030 14
Northwest Ontario S=	702,750 85		- -	213,845 26 Thunder Bay Sudbury	105,860 13 Sault Ste Marie	64,710 8 Kenora	135,110 16 Thessalon	173,195 21	10,015 1

a Totals may not add because of rounding.  
b Urban and semi-urban sample sizes were rounded to the nearest 5 in order to cluster interviews in groups of five per block. Census tracts and enumeration areas were randomly selected in each area. Rural, non-farm and farm enumeration areas were randomly selected in the rural subdivisions within each area and assigned to the nearest supervisor. Interviews were in clusters of five.

Appendix E  
Respondent Selection Grid

GRID #1

TABULATE AS USED: \_\_\_\_\_

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
	0	WOMAN	OLDEST WOMAN	YOUNGEST WOMAN
	1	MAN	MAN	OLDEST WOMAN
	2		OLDEST MAN	YOUNGEST MAN
	3		YOUNGEST MAN	OLDEST MAN
	4 OR MORE			OLDEST MAN

GRID #2

TABULATE AS USED: \_\_\_\_\_

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
	0	WOMAN	YOUNGEST WOMAN	OLDEST WOMAN
	1	MAN	OLDEST WOMAN	MAN
	2		OLDEST MAN	OLDEST WOMAN
	3		YOUNGEST MAN	WOMAN OR OLDEST WOMAN
	4 OR MORE			OLDEST MAN

GRID #3

TABULATE AS USED: \_\_\_\_\_

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
	0	WOMAN	YOUNGEST WOMAN	OLDEST WOMAN
	1	MAN	WOMAN	YOUNGEST WOMAN
	2		YOUNGEST MAN	OLDEST MAN
	3		OLDEST MAN	YOUNGEST MAN
	4 OR MORE			YOUNGEST MAN

GRID #4

TABULATE AS USED: \_\_\_\_\_

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
	0	WOMAN	OLDEST WOMAN	YOUNGEST WOMAN
	1	MAN	WOMAN	MAN
	2		YOUNGEST MAN	YOUNGEST WOMAN
	3		OLDEST MAN	WOMAN OR YOUNGEST WOMAN
	4 OR MORE			YOUNGEST MAN

# GRID #5

TABULATE AS USED: \_\_\_\_\_

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
	0	WOMAN OLDEST WOMAN	YOUNGEST WOMAN	YOUNGEST WOMAN
	1	MAN	MAN	OLDEST WOMAN
	2		OLDEST MAN	YOUNGEST MAN
	3		YOUNGEST MAN	OLDEST MAN
	4 OR MORE			OLDEST MAN

# GRID #6

TABULATE AS USED: \_\_\_\_\_

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
	0	WOMAN	YOUNGEST WOMAN	YOUNGEST WOMAN
	1	MAN	MAN	OLDEST WOMAN
	2		OLDEST MAN	WOMAN
	3		YOUNGEST MAN	OLDEST WOMAN
	4 OR MORE			OLDEST MAN

# GRID #7

TABULATE AS USED: \_\_\_\_\_

NO. OF MEN IN HOUSEHOLD	1 ADULT	2 ADULTS	3 ADULTS	4 OR MORE
	0	WOMAN	YOUNGEST WOMAN	OLDEST WOMAN
	1	MAN	WOMAN	MAN
	2		YOUNGEST MAN	OLDEST MAN
	3		OLDEST MAN	YOUNGEST MAN
	4 OR MORE			YOUNGEST MAN

GRIDS ARE NUMBERED 1 TO 7.  
 BEGIN WITH GRID # \_\_\_\_\_ TO SELECT  
 YOUR FIRST RESPONDENT; THEN USE THE  
 NEXT GRID TO SELECT YOUR SECOND  
 RESPONDENT, ETC. WHEN YOU REACH  
 GRID #7 GO BACK TO GRID #1 AND USE  
 IN SEQUENCE. AS EACH GRID IS USED  
 TABULATE IN THE SPACE PROVIDED.

ADULTS ARE HOUSEHOLD MEMBERS 18  
 YEARS OF AGE AND OVER.

Appendix F  
Disposition of Sample

	Eastern Ontario	Hamilton Peninsula	Metro Toronto	Southwest Ontario	Central/ Bruce	Northwest Ontario
Total sample(a)	491= 100	661= 100	1346= 100	261= 100	627= 100	113= 100
	(Per cent)					
Out of frame						
Language problem	4.5	6.5	7.4	1.9	0.8	3.5
Other (too old, deaf, vacant house, etc.)	2.0	1.2	1.3	1.1	1.6	1.8
None 18 years and over	0.4	0.1	0.3	0.4	0.3	-
Total	6.9	7.8	9.0	3.4	2.7	5.3
Sample frame	457= 100	609= 100	1224= 100	252= 100	610= 100	107= 100
	(Per cent)					
Loss from frame						
No answer after 3 calls	30.6	30.7	32.8	21.4	25.6	13.1
Respondent not in after 3 calls	20.1	18.1	23.4	14.7	18.0	10.3
Household refusal	16.0	14.6	11.8	12.3	13.1	7.5
Respondent refusal	2.6	5.4	9.7	5.2	8.5	9.4
Incomplete interview	0.2	0.5	0.9	1.2	0.2	4.6
Total	69.6	69.3	78.6	54.8	65.4	44.9
Completed interviews	30.4	30.7	21.4	45.2	34.6	55.1

a Totals may not add because of rounding.



# Pension Coverage and its Potential in Ontario

Harry Weitz

March 29, 1979

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## INTRODUCTION

Income replacement for the non-working elderly in Ontario is to a large extent dependent upon two separate but closely related programs, the Canada Pension Plan and the complex of employment pension plans. Assessment of how well they work depends upon what they were designed to do. One of the key measurements of their success in fulfilling their respective roles is the extent to which they provide coverage of those for whom the programs were designed.

Coverage alone, needless to say, does not necessarily mean that benefits are ultimately assured. Coverage may not be effective because it was not long enough to earn any returns. Furthermore, benefits themselves may turn out to be low either because participation was too short or the earnings level over the entire working life was too low. At best, coverage represents exposure to at least the promise of ultimate benefits, providing, of course, that predetermined requirements are fulfilled.

There are two basic aspects to the question of coverage. One is how well does the program cover the population it was designed to benefit? Evaluation of the program rests on the degree of failure and an assessment of the reasons for any coverage shortfall. Failure may stem from such factors as the inherent inadequacy of the system itself, restrictions in design, or certain limiting conditions. It may also stem from factors outside the scope of the program. These may be related to employment patterns or specific policy considerations. The second aspect of the coverage issue is how extensive it may be in terms of the working population as a whole.

The issue of coverage therefore can be reduced to two broad questions. The first is, in terms of coverage, how well does a program do the job it was designed to do? The second is how do these coverage objectives, even assuming they are fully met, affect the total working population? Whom do they include, whom do they exclude, and why?

This study will examine both these questions. It will first look at the general objectives of the CPP and private plans in terms of the population for whom they were designed. The performance of these programs in meeting their objectives will be reviewed. In the following section, coverage in its broader terms will be examined and analyzed in relation to less restrictive components of the labour force. Participation will be reviewed in greater detail with an analysis of coverage in both the public and private sectors, differences in participation by men and women, and differences at various age levels; and will include a discussion of the role of Registered Retirement Savings Plans (RRSPs). Finally the non-covered population will be quantified and analyzed. Characteristics of the principal groups not covered will form the basis for an appraisal of the potential to extend coverage for each of the groups.

## THE SYSTEM AS DESIGNED

Policy, whether public or private, determines the range of coverage. Predetermined goals and objectives establish the groups for whom the program is aimed. Having established the goals, the test of the program is how well it has fulfilled its role. How extensive, if at all, are the gaps?

Income replacement for the retired in Ontario is largely dependent upon the CPP and private pension plans. In concept and design the CPP and the private system are different and are based on different policies and rationale. Historically, the complex of employment pension plans was well established as an operating institution in Ontario, and in Canada as a whole, long before the CPP was introduced. Indeed the CPP was in large measure introduced because of the perceived inadequacies of the private system and was designed to fill these gaps.

In very broad terms, a characteristic common to the CPP and employment pension plans is that they are both earnings-related programs; that is, participation is predicated on employment for pay or profit. Therefore, by definition and design, the two major labour force components specifically excluded from both programs are unpaid family workers and the unemployed. (Coverage aspects of the unemployed will be discussed in greater detail below.) Employment pension plans have one further design restriction in that they specifically exclude the self-employed. Thus, the CPP is designed for all employment with earnings, whether for pay or profit, including both paid workers and the self-employed, while private plans are for paid workers only. Whether or not these excluded groups should be covered is a policy matter and extension to these groups, if desired, would involve redesign of the programs.

### CPP Coverage

In broad terms, Table 1 shows the relative extent of coverage for the employed components of the labour force in Ontario who had earned income. Measurement of CPP participation is somewhat less than precise, in that it is based on two conceptually different data bases which are not completely comparable. Labour force data measure the situation at a given point in time. Thus, over the course of the year, with the ebb and flow into and out of the labour force, the numbers vary widely from month to month and from season to season. Use of the annual average smoothes out these variations and adjusts for the seasonality. Contributors to CPP represent the number of persons who contributed during the year: it includes not only all those who were in the labour force at any time during the year but also those who may have had their contributions refunded for reasons such as age or insufficient earnings. To bring the two series into a closer relationship, contributor data were adjusted to account for underage contributors and those whose contributions were below the employee minimum level. In addition some rough adjustments were made for the ebb and flow into the work-force.(1) Allow-



Table 1

Estimated Coverage in Ontario under CPP and Private Pension Plans for Selected Years 1969-1976

Total labour force(a)	Labour force annual averages			Covered by CPP		Covered by employment pension plans	
	Paid workers	Employed labour force		Estimated number(c)	As per cent of paid employment	Plan members	As per cent of employed paid workers
		Self- employed	Paid workers and self-employed(b)				
			(Numbers in Thousands)				
1969	2,610	261	2,871	2,839	99	1,222	46.8
1973	3,509	267	3,282	3,273	99	1,446	47.9
1975	3,810	267	3,579	3,453	97	1,571	47.4
1976	3,931	271	3,655	3,504	96	1,608	47.5

a Includes employed and unemployed.

b Includes agricultural paid workers and paid workers, all ages.

c Estimates based on data in "Canada Pension Plan Contributors" various selected years, Health and Welfare Canada.

Source Statistics Canada, The Labour Force and special unpublished tabulations of labour force.  
 Health and Welfare Canada, Canada Pension Plan Contributors.  
 Statistics Canada, Pensions Data Bank.

ing for these shortcomings, the figures provided an approximation of the magnitude of coverage; too strict an interpretation should not be placed on minor fluctuations from period to period.

The data nevertheless confirm what is generally expected, that CPP covers virtually the entire employed work force who have either earnings or profits. Those falling outside the protection of the national program are few indeed.

Furthermore, virtually all participants in employment pension plans are also active participants in the CPP. At the end of 1966 for example, the latest year for which complete data are available, well over one and a half million (1,608,000) representing 47.5 per cent of the total paid workers in Ontario were covered by a private pension plan. Virtually all of these were also participants in the CPP. In that year, it is estimated that 96 per cent of the 3,655,000 employed paid workers plus the self-employed workers in Ontario were active members of the CPP. It would appear, therefore, the CPP by and large fulfills its role in covering the population it was designed to cover.

Participation in employment pensions in Ontario over the selected periods has grown significantly in absolute terms from 1,222,000 at the beginning of 1969 to over 1,600,000 in 1976. However, this growth was little more than a reflection of the growth of the paid workers in the labour force, with the two increasing more or less in unison. Therefore, the proportion of the paid workers in Ontario participating in private pensions remained relatively constant at about 47 per cent.

These figures do not, however, represent the full measure of how well employment plans fulfill the role for which they were designed. To fully evaluate the employment pension system one must look behind these figures and more specifically define the objectives in terms of whom they are designed to cover.

### Objectives of Employment Pension Plans

The literature abounds in theories that attempt to explain the rationale and motivation behind the growth and development of the employment pension system. These include such concepts of the pension plans as "a device, instituted and nourished by business firms, to meet the social problems of old-age economic dependency,"(2) and include other theories such as the "human depreciation" and "deferred wage" theories. The general conclusion is that probably there is no single rationale for pension plans but rather that a number of broad and often conflicting forces combine to motivate their formation.(3) A major underlying force, as McGill points out, is the employers' objective of providing financial support for their retired employees. Thus, the employer assumes a degree of social responsibility for his employees, particularly for the long-term employees who through their efforts have contributed to the success of the enterprise. In essence private pensions are

employment-related and exist only where there is an employer-employee relationship. Consequently, in terms of design, objectives, and rationale, membership is predicated on employment with the sponsor and specifically excludes the unemployed.

### Eligibility

Participation is closely linked to eligibility conditions prevailing in employment pension plans. They define the broad categories of employees who may participate and the conditions to be fulfilled for coverage. Participation is not uniformly a condition of employment. Generally, eligible employees of non-contributory plans are covered automatically, whereas in contributory plans participation may be a matter of choice. The larger contributory plans tend to make membership mandatory. This is particularly true of the large public sector plans. On a national basis, less than two-thirds of the private sector membership are in compulsory plans, with the balance in plans where participation is voluntary. Furthermore, according to the most recent study by Statistics Canada, "the number of plans that had a different participation condition for men and women continued to decline so that in 1976 only 1 per cent of all contributory plans had this variable condition compared with 3 per cent in 1974." (4)

Generally, therefore, it can be said that eligibility provisions do not significantly inhibit participation. In the plans where employees are given a choice, there may be some reluctance, particularly among younger workers, to join up. Unfortunately there are no current data to measure the extent or magnitude of the refusal of eligible employees to participate when a plan is offered to them. It is difficult to say whether the multitude of plans with voluntary membership represent most of the small plans because they are offered to only relatively small groups of employees, or whether they are small because many eligible employees simply refused to join. A study conducted over a decade ago indicates that relatively few voluntarily remained outside a plan when offered. (5) By and large, plans are designed to exclude the high turnover employees such as the very young, and short-service workers including seasonal and part-time employees.

Furthermore, some plans restrict membership to specific classes of employees; even here, many employers operate separate plans for excluded groups. Most plans had a service and/or age requirement for entry which amounted to one year or less of service and, where this was combined with age, the minimum was usually age 18. At the other end of the age scale in most plans normal retirement age was 65. Thus within the provisions of most plans participation was confined largely (but not necessarily exclusively) to employees between the ages of 18 and 64. (6) In selecting age 18-64 as the age limits for this study other factors were also considered.



## Age

The labour force by definition includes all workers from the age of 15 and over but not all age groups fall within the orbit of pension coverage, particularly the very young and those 65 and over. The very young, those between ages 15 and 19, are at the threshold of their working careers. Of those who do enter the labour force, many do so on a temporary basis only, dividing their time between school and work. Even those who are more permanently attached to the labour force have a high incidence of job change. According to an Economic Council of Canada study, job mobility tends to be more pronounced among young workers who have a high propensity to move from job to job in search of satisfying work.(7) This tendency toward high job mobility accounts for the institutional restrictions on their membership in private plans. Furthermore, even when given a choice, youngsters do not save for old age; they are primarily concerned with current consumption. Thus personal choice, employment patterns, and institutional practices combine to severely restrict membership. However, since age 18 is the lower age limit for CPP participation it was taken as the lower age limit for this study.

Also to be considered is the upper age limit for participation, in most cases age 65. Over the past decade or so an interesting phenomenon has been developing in the employment pattern of the 65 and over. Demographic trends point to a growing proportion of the population concentrating in the age 65 and over group. Yet their participation in the labour force has been gradually declining. To some extent this trend can be attributed to the availability of private and public retirement benefits. Also contributing is the increasing tendency for private pension plans to have age 65 as the normal retirement age. Most workers when given the opportunity tend to retire as early as possible, particularly if assured of pension benefits. Thus, the terminal age for the pension target population could reasonably be taken to be age 64.

## Employment Patterns

As noted above, because of the employer-oriented objectives, employment pension plans are designed primarily for employees with prospects of a continuing input into their employer's operation, and therefore tend to exclude part-time employees. Conceptually, this component of the labour force is defined as those who usually work less than 30 hours per week, exclusive of those who usually work less than 30 hours per week but consider themselves to be employed full-time.(8) In 1976 there was a total of over 394,000 part-time workers employed in Ontario, representing somewhat less than 12 per cent of total paid workers in the province. Significantly, however, 70 per cent of these were women, most of whom were employed in the private sector. In aggregate, one out of five women paid workers in Ontario had part-time employment in 1976, whereas less than 6 per cent of the male paid workers had part-time jobs. Thus, exclusion of this pattern of employment reflects most heavily on women. Nevertheless, without minimizing the need or rationale



for extending protection to the increasing numbers of women whose employment pattern to a significant degree falls in this category, in terms of the program's objectives, part-time workers fall outside the target population for which benefits were designed.

### Performance of System as Designed

Based on these criteria the composition of the labour force which employment pension plans were designed to cover consists of full-time employed paid workers aged 18 to 64. In 1976 the estimated annual average of this group of workers in Ontario was 2,913,000. For the same period, pension plan membership in Ontario, exclusive of the armed forces, was 1,585,000. Thus, 54.4 per cent of the target labour force, as restrictively defined in this section, participated in private plans, and all were also covered by the CPP.

In broader terms, however, one must look beyond the performance of the system as designed and examine the extent of private plan coverage for a wider, more extensive segment of the working population. The next section, therefore, will examine the "target" labour force in wider and more general terms and will analyze the resultant coverage in greater detail.

### COVERAGE OF REDEFINED TARGET POPULATION

The major point of departure for this section will be treatment of the part-time workers. Since the analysis will be centred on the target population as redefined in this section, the significant characteristics of the covered population will be examined in detail. This will include a review of the variations in coverage by sector, age, and sex of paid workers, with some comment on the role of the RRSP for the self-employed. The coverage gaps revealed here will be examined in more detail in the concluding section together with an overall review of non-covered workers including the unemployed and non-paid family workers.

### Part-time Workers

Nearly 10 per cent of employed paid workers are classified as part-time employees, but most of these are women. Because many women split their working years with a period for child-bearing and child-rearing, their full-time employment years tend to be shortened; and many are able, or elect, to work on a part-time basis only. Consequently, in the past, part-time employment has been a predominant pattern for women; and as noted earlier, one of five women in paid employment has a part-time job. With women becoming an increasingly significant element in the labour force, part-time workers justifiably could be included in the pension target population that forms the basis for evaluating coverage. Table 2 shows an estimate of employed paid workers in Ontario in 1976 who were between age 18 and 64 and so constitute the "target population"

thus far defined. Accordingly, out of a total target of a work-force of 3,218,000 there were 1,585,000 workers in private pension plans, representing a coverage ratio of over 49 per cent.

### Students

The role of students in this analysis requires special comment. As noted earlier, young people are spending more time at school to acquire advanced knowledge and skills so as to be more competitive in the labour market. Although over this period they may enter the labour force on a full-time basis for part of the year or have part-time employment, availability of pension coverage over this period is not significant. Therefore, to the extent that students are counted in the labour force, one could justifiably exclude them from the target population for pensions. Measuring their labour force participation, however, presents certain data problems.

Conceptually, students, and incidentally housewives as well, are specifically classified as "not in the labour force." Only when they actively seek work or take a job are they included. Thus when students start working during their summer break, taking either full-time jobs or part-time work (as defined herein) they swell the ranks of the employed. In reality there is an ebb and flow of students into and out of the labour force over the year. Also to some extent full-time students may have part-time jobs that bring them into the orbit of the labour force. By selecting age 18 as the lower terminal age, the impact of student labour force participation has been greatly reduced. However, with the tendency for young people to extend their schooling years, some added adjustments might be made, particularly at the 18-24 age levels. The extent to which students in these age categories are in the labour force can be measured only in broad terms because precise data are not available. At best, one must rely upon special studies of student employment which have been limited to specific months of the year. These data are not readily comparable to the seasonally adjusted annual average so that only rather broad estimates can be made. According to an unpublished special study produced by Statistics Canada in 1971, it was estimated that in April of that year 23 per cent of the youth in the labour force between ages 14 and 24 were students, with heavy concentration among those between 14 and 19. If one were to project this figure, it might be assumed that approximately 20 per cent of the paid workers in this age group, on average, were students. The difference in coverage resulting from excluding students is marginal at best.

Based on the broader "target" population which includes part-time employees and adjusts for students, in 1976 over half (50.4 per cent) of paid workers in Ontario participated in an employment pension plan - all of whom also had CPP coverage. Participation was much higher for men, amounting to nearly 58 per cent while only 39 per cent of women had coverage.

Table 2

Paid Workers Age 18-64 by Sector, Full and Part-time Showing Adjustments for Target Population

Employed paid workers (18-64)	Male		Female		Both sexes	
	(Thousands)	(Per cent.)	(Thousands)	(Per cent.)	(Thousands)	(Per cent.)
Public sector						
Total(a)	391		263		652	
Part-time	10	(2.5)	36	(13.7)	46	(7.1)
Full-time	380	(97.1)	228	(86.7)	608	(93.2)
Private sector						
Total	1,578		986		2,566	
Part-time	61	(3.9)	198	(20.1)	259	(10.1)
Full-time	1,517	(96.1)	788	(79.9)	2,305	(89.8)
Both sectors						
Total	1,969		1,249		3,218	
Part-time	71	(3.6)	234	(18.7)	305	(9.5)
Full-time	1,898	(96.3)	1,015	(81.3)	2,913	(90.5)

a Totals may not add because of rounding.



### Coverage by Sector

A closer examination of coverage in more detailed components of the work force provides greater understanding of the role employment plans play in providing a vehicle for retirement savings. As may be seen in Table 3 nearly 58 per cent of the men participate in a plan whereas only slightly over one-third of the women do so. Significantly, however, the pattern of coverage varies widely from the public to the private sector. Coverage in the public sector is virtually universal with 92 per cent of the men and over 98 per cent of the women in a pension plan. Labour force data do not provide a precise split between federal and provincial public employment. Nevertheless, a very rough estimate indicates that employees at all levels of provincial government activity have coverage which runs as high as 98-99 per cent. Federal coverage tends to be somewhat lower, indicating a certain amount of part-time employment which would keep the coverage level down. In aggregate, just under 95 per cent of all workers employed in Ontario by all three levels of government have pension coverage. Thus the coverage gap in the public sector is virtually non-existent.

The main shortfall in coverage, therefore, may be found in the private sector. Just under half of the men working for wages and salaries in this sector participate in a private plan. But the largest shortfall is among women; just over one in five have coverage. Well over three-quarters of the women are outside a plan; many of these are part-time workers, a group that generally tends to fall outside the scope of private programs.

Table 3

Coverage of Employed Paid Workers in Ontario Age 18-64 by Sector and Sex, 1976

Sector	Men	Women	Both sexes
		(Per cent)	
Public sector	92.3	98.4	94.8
Private sector	49.4	21.7	39.1
Both sectors	57.8	38.6	50.4

### Coverage by Age and Sex

Estimates of age distribution of plan members were based on income tax data. This source provides a distribution only of those who contributed to a private pension plan and therefore does not include members of non-contributory plans.

It is recognized that the different eligibility conditions between contributory and non-contributory plans could affect the age distribution. Whereas contributory plans may have a minimum age requirement for participation, membership in non-contributory plans is usually unconditional, so that coverage starts with employment. Consequently, there



may be a greater number of young workers in non-contributory plans. Since there are no data to adjust for this difference, there may be a slight distortion at the younger age levels between 18 and 24. Nevertheless, since tax data cover nearly three-quarters of all plan members in Ontario, it may be taken as a good indication of the order of magnitude of participation in private pension plans by the various age groups.

As may be seen in Table 4 the highest coverage ratios were found in the prime working ages. At the lower age extremity only 27 per cent of employed paid workers in the 18-24 age group were in a plan. At the other extreme about one-third of the workers aged 65 and over were covered; probably most of these were in the private sector. Pension coverage in 1976 was largely concentrated between the ages 25 and 64. In the younger age groups, 25 to 44, it was estimated that over half (52 per cent) were plan participants. At the older levels, in the age group 45-54, the ratio went up to over 59 per cent and those aged 55 to 64 had a coverage ratio of over 68 per cent.

Generally coverage was more comprehensive among men with the major gaps appearing among women workers. At all age levels coverage was higher. Nearly one-third of the men between the ages of 18 and 24 were plan members. Nearly 55 per cent of the next age group had coverage. From age 35 onwards at least two-thirds of the men had coverage rising to over 80 per cent of those in the age group of 55-64.

As noted earlier, the significant gaps are found among women workers; and since most women engaged in public sector employment have pension protection, it follows that the gap is almost entirely in the private sector. As may be seen in Table 4 women under age 35 have comparable coverage to men at those age levels. It may be that this coverage rate reflects a changing employment pattern emerging for the current generation coming into the labour force. Kreps points out that there is evidence that the work-life cycle for women is increasing with higher levels of labour force participation. She points out that "... there is increasing evidence that young women now in the labour force have much stronger attachments to the labour force than was true of earlier cohorts and that they are less likely to return to full-time home work either to meet family responsibilities or because the job market is unfavourable." (9) Should this trend continue, then, as the current younger generations move up through the age scale, and women's employment patterns move from the present concentration in part-time jobs to full-time activity, coverage levels should also increase. In the meantime, as may be seen in Table 4 women in their middle ages have a far lower rate of pension participation than men. At the ages 35-44 about two-thirds of the men and only one-third of the women have coverage. The contrast is even sharper for the 55-64 groups, with only 44 per cent of the women and nearly 81 per cent of the men being active members of a plan.

Table 4

Estimated Distribution of Plan Members in Ontario by Age and Sex Showing Percentage of Employed Paid Workers Covered by Pension Plans, 1976

Age	Men			Women			Both sexes		
	Membership number(a) (Thousands)	Employed paid(b) workers	Covered paid workers (Per cent)	Membership number(a) (Thousands)	Employed paid(b) workers	Covered paid workers (Per cent)	Membership number(a) (Thousands)	Employed paid(b) workers	Covered paid workers (Per cent)
18-24	96	330	29.1	70	284	24.6	166	614	27.0
25-34	314	573	54.8	160	337	47.5	474	911	52.0
35-44	260	411	63.3	85	244	34.8	345	655	52.3
45-54	252	374	67.4	97	214	45.3	349	588	59.3
55-64	182	226	80.5	51	116	44.0	233	342	68.1
18-64(c)	1,107	1,914	57.8	461	1,195	38.6	1,568	3,110	50.4
65 and over	12	36	33.3	5	15	33.3	17	51	33.3
Total	1,119	1,950	57.4	466	1,210	38.5	1,585	3,161	50.1

a Adjusted for armed forces.

b Age group 18-24 adjusted for estimated student labour force participation.

c Figures may not add because of rounding.

Source Estimates of age distribution of plan members derived from special tabulations of National Revenue income tax data on contributors to private plans. Plan membership from Pensions Data Bank and paid worker data derived from Statistics Canada, Labour Force.

## RRSPs as a Vehicle for Pension Savings

A program which has come to assume an ever-increasing role in income support for the elderly is the Registered Retirement Savings Plan (RRSP). It was designed primarily as a personal retirement savings vehicle. Individuals who feel they will need more than the benefits offered by the CPP or their employment pension plan can set up a personal retirement savings program through this system. Within certain limits, contributions may be deducted from taxable income before calculation of income tax. Earnings on RRSP investments are accumulated, tax-free, until retirement when the money may be used for an annuity. At this point payments as received become taxable but presumably (though not necessarily) at a lower tax rate since income tends to be reduced.

Different contribution ceilings apply for private pension plan participants than for non-participants. Non-participants, whether employees or self-employed, may contribute up to 20 per cent of earned income to a maximum of \$5,500. Contributors to employment plans are limited to 20 per cent of income up to a maximum of \$3,500, reduced by their pension contributions, so that in total their pension savings may not exceed \$3,500 for tax deferment purposes.

When introduced in 1957 RRSPs were originally intended for the self-employed, to give them the same tax deferred pension savings opportunities as were available to contributors to occupational pension plans. From these early beginnings they were rather slow to take root; only in recent years have they become a significant savings vehicle, widely used not only by the self-employed but by private plan members as well. In addition, group RRSPs have become popular among employers, either as a supplement to an existing non-contributory plan, or as a substitute for an employer-sponsored plan.

Tax treatment of RRSP contributions has tended to increase participation to the point where annual purchases now equal or even surpass total employee contributions to private pension plans. But this level of participation built up slowly over the years. Almost ten years after their inception, less than 2 per cent of total tax filers in Canada in 1966 contributed to RRSPs. Proportionately the level increased better than fivefold over the next decade; in the 1976 tax year 10.5 per cent of the tax filers reported RRSP participation. In absolute terms the numbers rose from far less than 100,000 contributors in 1966 to nearly 250,000 in 1970, and over the next six years skyrocketed to 1,225,000 persons in Canada in 1976, nearly half of whom (525,000) were in Ontario. In dollar terms the growth is even more impressive. Over the 1970s alone they rose from over \$225 million in Canada as a whole during 1970 to \$2,115 million in 1976, with a total of \$846 million in Ontario alone.

While RRSPs were designed as a pension savings instrument, participation in them may be linked to the tax treatment of contributions -



thus, to some extent, transforming them into a tax shelter. Indeed one can trace the growth in participation, and more specifically the rapid rise in contributions to changes in maximum allowable levels. For example, the limits rose in 1972 from a maximum of the lesser of 10 per cent of earnings or \$2,500 for non-participants and \$1,500 for pension participants to 20 per cent or \$4,000 for non-participants and \$2,500 for participants. This has since been raised to the current level of \$5,500 and \$3,500 respectively. These changes undoubtedly contributed to the sharply increased volume of activity, since after each change there was a sharp rise in purchases. At the same time, however, it must be recognized that not all the money channelled into RRSP funds necessarily end up as pension savings.

The Commission's Consumer Survey shows that a very high proportion of RRSP holders intend to use these funds for retirement. When asked how they intended to use their RRSPs most (80.1 per cent) replied that they planned to keep them for retirement. Another 7 per cent said they intended to use at least part of these savings for retirement.(10)

It is evident from the Commission's survey that RRSPs provide an important means for accumulating retirement savings. Table 5 puts into another perspective the role of RRSPs for Ontario taxpayers, showing their numbers by income group, average contributions, and the proportion of total tax filers in each income group who participated in this form of savings. Although aggregate figures are available for 1976, the details presented herein are not yet available for that year so 1975 data have been used. Since in aggregate contributors rose from slightly over 9 per cent in 1975 to about 10.5 per cent of all tax filers in Canada in 1976 the figures as distributed in Table 5 will not change significantly; therefore the 1975 data may be assumed to be indicative of prevailing patterns.

As may be seen in Table 5, RRSP participation is directly related to income. As income increases, more money is available for discretionary savings. Consequently, although in aggregate only 9 per cent of tax filers had this form of savings, the proportion ranged from less than half of 1 per cent to over 52 per cent according to income. At the mid and lower income levels of those with incomes of less than \$10,000 per year, relatively few tax filers made any contributions to an RRSP. Beyond that, at the higher income levels, it increased sharply with well over one-third of those earning \$20,000-\$24,999 in 1975 contributing to an RRSP. Well over half of those with \$25,000 or more did so.

In aggregate there were nearly 437,000 tax filers in Ontario who contributed, on average, \$1,376 to an RRSP in 1975. In the following year these figures increased to 525,000 persons with an average contribution of \$1,611. As one would expect, these averages mask the actual range of contributions made. At the low end of the income scale relatively few persons with annual incomes of less than \$3,000 had an RRSP and on average contributed around \$300 in 1975. Those with incomes of



\$10,000 or more, who presumably are more able to set money aside for the future, on average contributed \$959 in the \$10,000-\$14,999 level, increasing to \$1,665 for those in the \$20,000-\$24,999 range, and \$2,462 for those earning \$25,000 or more. None of the averages reached the maximum allowable, although undoubtedly individuals at virtually all income ranges made such contributions. These are masked, in part, by the lower allowable levels for the dual contributions - that is, from those who contributed to both an RRSP and an employment pension plan.

As noted earlier, RRSP contributors are concentrated at the higher income levels. Table 5 shows that over 83 per cent had annual incomes of \$10,000 or more. Furthermore, in this group it is estimated that some 45 per cent were dual contributors as defined above. Indeed, nearly all dual contributors were at this income range; very few - less than 10 per cent in most lower income levels - contributed to a private pension plan as well.

Table 5

Registered Retirement Savings Plans Contributors in Ontario by Income Showing Average Contribution and Proportion of Tax Filers Contributing, 1975

Income (Dollars)	Proportion of tax filers with RRSPs	RRSP number	Contributors' percentage	Average contribution
Under 2,000	.2	1,889	.4	295
2,000- 2,999	.5	1,852	.4	311
3,000- 3,999	.9	3,047	.7	388
4,000- 4,999	1.5	4,430	1.0	486
5,000- 5,999	1.9	5,509	1.3	529
6,000- 6,999	3.3	9,312	2.1	625
7,000- 7,999	5.0	13,832	3.2	664
8,000- 8,999	6.6	16,803	3.8	733
9,000- 9,999	6.6	16,135	3.7	828
10,000-14,999	12.1	119,431	27.3	959
15,000-19,999	21.9	99,908	22.9	1,287
20,000-24,999	35.4	58,163	13.3	1,665
25,000 and over	52.2	86,676	19.9	2,462
Total	9.1	436,987	100	1,376

Source Statistics Canada, special tabulations of income tax data.

These patterns of concentration at the higher income levels logically occur not only because these persons are most likely to have surplus for savings, but they also have more to gain because of their higher marginal tax rates. To some extent also, at these levels participants in employment plans feel they may need more retirement income than their existing programs provide; they are more likely, and more able, to supplement these through the RRSP.

As originally intended, there is no doubt that many self-employed take advantage of opportunities for tax-sheltered pension savings through an RRSP. In any one year the exact number who do so, however, can only be estimated from existing income tax data. Special tabulations of income tax data can identify individuals who in the tax year contributed to both an employer plan and an RRSP; but this source is not sufficiently sensitive to isolate members of non-contributory pension plans who contributed to an RRSP. It must be assumed that non-contributory plan members, particularly those at the higher income levels, would also supplement their retirement savings. Nevertheless, on a national basis, fairly good estimates of self-employed RRSP participants may be compiled.

The extent of participation in pension savings via RRSPs by the self-employed in Ontario may be derived from national data produced by special tabulations of income tax data. Since the special taxation tabulations show that over 40 per cent of the RRSP contributors were in Ontario in 1975 (the latest year for which data at the required level of detail are available) the national pattern can be said to be representative of Ontario. A review of contributors to RRSPs by occupation shows, among other details, that in some professional classifications as many as 60 to 70 per cent contributed to RRSPs. In aggregate, however, about 16 per cent of all self-employed in Canada had this type of savings. On this basis it may be said that out of the 271,000 self-employed in Ontario in 1976, at least 43,000 had an RRSP.

It would appear therefore that RRSPs as an instrument for tax-deferred retirement savings are used not only by the self-employed but by others as well. While admittedly RRSPs are used for tax-sheltered savings, it would appear that this is not an extensive practice and annual "cash-outs" are not too widespread. This is confirmed by the Commission's survey and is further reflected in the large and growing specialized funds being accumulated by the financial institutions from this source. With the high incidence of dual contributors among RRSP holders it is evident that to a very large extent these savings are used as a supplement to existing employment pension plans. Furthermore, with cash flows of well over \$2 billion annually, RRSPs in their own right have become a major financial institution. With a large proportion of these funds flowing from Ontario taxpayers the significance to the province is considerable.

Analysis of the Commission's Consumer Survey provides further details on the role of RRSPs in the retirement savings practices of Ontario citizens.

#### NON-COVERED WORKERS AND THEIR PROSPECTS FOR COVERAGE

An appraisal of prospects for extending pension coverage must take into account the principal characteristics of those not covered. The

outline below identifies and quantifies the major groups not covered; this section will examine each group and discuss the prospects for expanding their participation in employment pension plans.

Table 6

Workers in Ontario without Pension Coverage, 1976. Who Are They? How Many Are There?

Who are they?		How many?
Unpaid family workers		34,000
Unemployed		242,000
Self-employed		271,000
Uncovered paid workers		1,554,000
Public sector	33,000	
Men	29,000	
Women	4,000	
Private sector	1,521,000	
Men	779,000	
Women	742,000	
Total		2,101,000

#### Unpaid Family Workers

As long as pension coverage is confined to the employment relationship these 34,000 workers automatically will be excluded. This applies to the CPP as well. In the latter case, however, public policy may change to include specific groups - for example, housewives who were excluded from the CPP because they had no earnings on which to base either contributions or benefits.

#### Unemployed

As long as the 242,000 workers are in this category, they are not only outside the scope of private pension coverage but also fall outside of coverage by the CPP as well. Both programs confine membership to those with earned income from employment. Aside from this restriction, the age composition of the unemployed is another factor that places many in this group outside potential coverage.

Unemployment generally tends to be much higher among young workers than older ones. A study in the United States found that there is an increase by age in the stability of labour force participation. Unemployment and job change was much higher for those under age 25 than for older workers.(11) This was further substantiated by an Economic Council of Canada study which concluded that young workers have a high propensity to move from job to job in search of satisfying work.(12) Indeed, of the 242,000 unemployed in Ontario in 1976 nearly half were under age 25. Because of the tendency toward high job mobility among



young workers, their membership in private plans is restricted. Thus a significant proportion of the unemployed are the young to whom pension coverage is a secondary consideration at best, and who generally could not expect to be covered until they are older.

In times of high unemployment, however, there are some related concerns. Generally speaking, within individual firms, workers with the least seniority are the first to be released; existing plan members tend to be the last to be affected since membership assumes at least a minimum period with the same employer. However, when economic conditions deteriorate and unemployment reaches high levels even long-term workers are affected. Under these conditions, when unemployment becomes so pervasive as to affect plan attachment, it interrupts or even stops benefit accumulation and so reduces the likelihood of a good pension, or even any pension at all, being accumulated. This raises the question of preservation of accrued benefits. The CPP at least preserves earned benefits by locking in both employer and employee contributions. Another closely related question is whether an unemployed person, particularly if unemployment is over an extended period, would prefer to eat now or save for old age.

Some countries have used pension programs to ease their unemployment problems. They have reduced retirement age and provided incentives for older workers who could not find employment to join the retirement rolls. In the process, however, the retirement system is not used for the functions for which it was designed. Philosophically, income support for the unemployed is fundamentally different from income support for the elderly so that separate programs are designed and used to meet each contingency. One cannot be used to resolve the difficulties of the other without seriously eroding and disrupting the program.

Non-coverage of the unemployed is not primarily a reflection on the pension system but is largely the result of prevailing employment and economic conditions which are outside the realm of pensions. The basic problem is to bring these workers into gainful employment.

### Self-Employed

All the 271,000 self-employed in Ontario are, by definition, covered by the CPP. Supplementation of these benefits is largely the responsibility of the individual. As discussed above, there are tax incentives to induce the self-employed to save systematically for old age through the RRSP. And as noted, at least 16 per cent take advantage of this opportunity. Even at this level, when one considers the attractive tax benefits for RRSPs it is surprising that so few of the self-employed take advantage of this savings vehicle. To a large extent personal savings and other asset accumulations no doubt constitute the major source for income replacement in old age for the self-employed. Thus coverage for most of this group is primarily a matter of self-determination.



## Non-covered Paid Workers

The 1,554,000 persons in this segment of the work-force constitute the largest single group outside the private program, though virtually all are in the CPP. Not only does this category represent nearly three-quarters of all persons without coverage but is most likely to serve as the mechanism for ultimately bringing the unemployed under private plans. Therefore, this is the group that requires special attention.

It is estimated that pension plan sponsors employed about two-thirds of the paid workers, but not all of them participated in their employer's plan.(13) Many employees, for a variety of reasons, do not participate even when a plan is available. Some workers are temporarily excluded because they have not yet fulfilled eligibility requirements of the plan. Others, when given the choice, elect not to join. Plans tend to make participation a matter of individual choice where employee contributions are involved, particularly in contributory plans. Studies have shown that as many as 10 per cent of the employees on payroll when given the choice elected not to join available plans even though they were eligible.(14)

Virtually all, 98 per cent, of those not covered in 1976 were in the private sector where the major shortfall exists. Of the 1,521,000 in the private sector who were without a private plan, nearly half were women. Of those, one in five were in part-time employment which, as was noted earlier, leaves them outside the scope for potential participation. Only 8 per cent of the men were in this category. Among the men in this category a high ratio tended to be under age 25 - the high turnover group most likely to be excluded from plans. Presumably as these workers grow older their potential for coverage increases.

These data show the situation in 1976 and do not fully reflect the impact of the human rights legislation particularly on pension plans. Generally speaking there already were limited restrictions on women in plans and the few remaining differences were rapidly disappearing.(15) Once the human rights legislation is fully reflected in plans these marginal differences will disappear altogether. The major remaining deterrent to expansion of coverage for women therefore will be their pattern of employment. The current trend points to extended labour force participation by women. When combined with increased awareness of the need for long-term planning for retirement, the prospects for expanded coverage should increase.

An overriding factor inhibiting greater coverage is the fact the pension plans in the private sector tend to be concentrated among large employers. In Canada as a whole, fewer than 16,000 plans were in operation in 1976 among some 600,000 business entities. A similar ratio would apply to Ontario as well. Schulz points out that "a profile of these small employers would include the business proprietors found on

any typical small town Main Street or any large city neighbourhood shopping centre; the small retailer, the local restaurant, the service station, repair service, the barber and beauty shop, the doctor, the dentist, the auto dealer - and many, many more small employers of wage and salaried workers." (16) This accurately describes the situation in Ontario as well. It is among these small employers that many of the more than one and a half million non-covered workers are employed.

What are the prospects for expansion in this area? The multitude of small employers have available to them two facilities that hold some promise for extension of coverage to their employees. The first of these is the multi-employer plan. It has the merit of spreading the cost of development and operation among a number of employers, bringing the unit cost down to a manageable level for individual employers. Savings are made by using a prototype master plan for all participating employers. The other development holding promise for the small employer is the RRSP and particularly the group RRSP. It serves as a ready funding medium for money purchase arrangements having all the necessary qualifications to meet regulatory requirements.

However, even with these developments there are other factors that tend to limit the degree of expansion among the small operators. The small firm tends to be relatively young in years. In the early years of development the priority for funds tends to be for business expansion rather than pensions. The small employer who owns his own business tends to view pension contributions as a personal cost. Finally, the small business owner is frequently an independent person who strongly believes that each individual is responsible for his own financial future. In the small family enterprise he may be more motivated by the need to provide for himself and his heirs than for his employees.

Some of these restricting forces have been overcome through the medium of the multi-employer plans. There has been evidence of growth in this area, particularly in Western Canada. Also, the group RRSP is another vehicle available to the small employer. Its main merits are that at least it does not involve excessive development and operating costs and leaves the accumulation of funds largely in the hands and control of the workers themselves.

Significant advances are thus being made in removing barriers to further extension of private pension coverage. There still are substantial gaps. These gaps in coverage cannot easily be removed entirely as long as workers move from employer to employer and private plans exclude participation during initial periods of employment.

This review was focused primarily on existing employment patterns and trends that appear to be developing over a relatively short term. To go beyond that would be largely speculative. Yet in the light of demographic trends over the balance of this century and on into the twenty-first century some forward looking would be in order. It is

obvious that as the baby boom generation passes through middle age and on to retirement, after the year 2000, their aging process among other things will have a serious impact on earning replacement programs for the retired. This is an appropriate time to at least make some informed judgments of what the future may bring so that adequate policies can be developed today to meet the contingencies of the future. The long-term issues are clearly outside the terms of reference of this study but in evaluating coverage, and particularly its potential growth in Ontario, one inevitably must come to grips with the implications of demographic trends.



## NOTES

- (1) Although the self-employed have a somewhat higher minimum earnings level than paid workers, data detail did not allow for this adjustment. Numbers of contributors were invariably higher than annual average labour force and therefore contributors for each year were reduced by the ratio of difference.
- (2) See Dan M. McGill, Fundamentals of Private Pensions, Richard D. Irwin, Inc., Homewood, Illinois, p. 20.
- (3) Joseph J. Melone, and Everett T. Allen, Pension Planning: Pensions, Profit Sharing and Other Deferred Compensation Plans, Dow-Jones-Irwin Inc., Homewood, Illinois, 1966, p. 17, also see McGill, Fundamentals of Private Pensions.
- (4) Statistics Canada, Pension Plans in Canada, 1976, p. 32.
- (5) A very old study "Survey of Pension Coverage 1965" indicates that in Canada as a whole about 2 per cent of the paid workers chose not to join their employers' plan.
- (6) Statistics Canada, Pension Plans in Canada, 1974, p. 35.
- (7) Economic Council of Canada, "People and Jobs," pp. 90-94.
- (8) Statistics Canada, The Labour Force, Cat. 71-001.
- (9) Juanita M. Kreps, "Social Security in the Coming Decade: Questions for a Mature System," Social Security Bulletin, March 1976, p. 26.
- (10) The role of RRSP as a pension savings program based on the Commission's Consumer Survey is discussed in greater detail in the separate study supplementing this report.
- (11) M.W. Riley, M. Johnson and A. Finer, eds. "Aging and Society," Vol. 3, p. 172.
- (12) Economic Council of Canada, "People and Jobs," pp. 90-94.
- (13) Harry Weitz, "Private Pension Plan Coverage," see also "Pension Plans in Ontario Statistics 1963," The Pension Commission of Ontario, p. 4.
- (14) Statistics Canada, Survey of Pension Plan Coverage, 1960, Cat. 74-506.
- (15) Statistics Canada, Pension Plans in Canada, 1976, Cat. 74-401.
- (16) James H. Schulz, "Pension Aspects of the Economics of Aging: Present and Future Roles of Private Pensions," a working paper prepared for The Special Committee on Aging, United States Senate, January 1970, p. 26.



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# Contributors and Contributions to Registered Retirement Savings Plans in Ontario

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June 27, 1979

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## INTRODUCTION

Two decades after its introduction in 1957, the Registered Retirement Savings Plan (RRSP) program has evolved into an important savings vehicle in Canada.(1) Initially the program was rather slow to take root, prompting one researcher in the mid-1960s to observe that "a tax deduction scheme that attracts only 1.4 per cent of eligible taxpayers must be judged something less than a smashing success."(2) Since that time it has been expanded and extended much beyond its initial limits and consequently attracted increasing taxpayer participation. By 1976, the latest year for which data are available, 10.5 per cent of the over 12 million persons who filed income tax returns in Canada reported RRSP contributions. Significantly, the value of these payments reached a record level of well over \$2 billion. With annual accumulations of this magnitude the program has come to represent an important component of gross personal savings in Canada.

To provide some insight into the role of RRSPs in the pension savings system as well as a general profile of participants and their personal characteristics, one must turn to income tax data as a primary information source. These data, however, have certain limitations. At best they provide a snapshot picture at a given point in time. As such, the data show the personal and other characteristics of all persons who filed a tax return and contributed to an RRSP in a given year. One cannot differentiate between single year contributors and those who make regular annual contributions. Some sense of the longitudinal patterns may be inferred from an examination of changes over time. Therefore, in this review some historical trends will be analyzed.

A further limitation of this data source is that the annual payments reported in income tax records represent gross inflow of funds. They do not reflect cash-outs that inevitably occur during the year. In the normal functioning of this program some of the funds are withdrawn to purchase annuities for eligible participants. Furthermore, and more important in terms of the focus of this study, those funds placed in the system for tax shelter purposes will obviously be withdrawn, and not kept as a long-term accumulation for future pension income. The degree to which the program serves as a pension savings vehicle rather than a tax shelter may be inferred from the magnitude of the funds accumulated over the three decades of its existence. It is estimated that at the end of 1978 RRSP aggregate savings in Canada amounted to well over \$7 billion, representing a substantial portion of the gross inflow since 1957. Therefore, notwithstanding the regular withdrawals, this substantial accumulation suggests that by and large RRSPs are serving their primary function as pension savings. This is further corroborated by the Commission's Consumer Survey which shows that a high proportion of participants indicated that their RRSPs were purchased for pension income.



Subject to these limitations, income tax records provide a valuable data base for a study of RRSPs. To place the program in perspective, the first section of this study will review the growth of RRSPs in Canada over the 1970s, with emphasis on the 1976 tax year - the latest year for which complete data are available. This overview will be followed by an examination and analysis of the trends in Ontario. It will show the extent of participation in the province and the changing characteristics of participants in terms of age, income, sex, and contribution level.

OVERVIEW OF RRSPs IN CANADA

Proportion of Tax Filers in Canada with RRSPs

There has been a dramatic growth of participation in RRSPs by Canadians over the first half of the 1970s. In relative terms, participation remained at a low level in the first decade of the program's existence, and it was only in the 1970s that RRSPs came into their own. The growth was not only among men but more significantly, as more and more women joined the labour force, an increasing proportion used this type of savings. Participation ranged from a low of 1.2 per cent of women who filed tax returns in 1969 to 6 per cent in 1976. Among men, it rose from 2.8 per cent to 13 per cent over the same period. The full impact of this expansion comes into sharper focus when one realizes that over this same period the total number of persons in Canada who filed income tax returns grew enormously from nearly 8.5 million to well over 12.3 million persons in 1976. Therefore, over this period an increasing proportion of a sharply rising number of tax filers entered the program so that in absolute terms the expansion was very extensive indeed.

Table 1  
Proportion of Tax Filers in Canada with RRSPs, by  
Sex, Selected Years, 1969-1976

	Men	Women	Both sexes
		(Per cent)	
1969	2.8	1.2	2.3
1973	8.8	3.7	6.9
1975	11.6	4.9	9.0
1976	13.3	6.2	10.5

Source Non-published data provided by Revenue  
Canada, Taxation.

Growth in Contributions and Membership

This expansion was reflected not only in the number of RRSP purchasers, but also in the remarkable growth in both total and average contributions over the past few years. This shows up sharply in Table 2 which shows contributors, average and total contributions to RRSPs by

Table 2

RRSP Total and Average Contributions by Province, Selected Years, 1969-1976

	1969			1973			1975			1976		
	Average			Average			Average			Average		
	Contributors (Number)	contribution (Dollars)	Contributors (Number)	contribution (Dollars)	Contributors (Number)	contribution (Dollars)	Contributors (Number)	contribution (Dollars)	Contributors (Number)	contribution (Dollars)	Contributors (Number)	contribution (Dollars)
Newfoundland	1,480	834	5,611	1,192	8,602	1,426	9,952	1,653				
Prince Edward Island	536	831	2,241	1,307	3,427	1,329	3,783	1,586				
Nova Scotia	4,914	735	16,827	1,178	25,655	1,252	30,994	1,503				
New Brunswick	3,438	839	11,797	1,148	17,796	1,306	20,152	1,525				
Quebec	39,536	867	164,521	1,136	218,408	1,307	284,544	1,513				
Ontario	89,459	859	311,897	1,188	436,987	1,376	525,144	1,612				
Manitoba	11,222	817	42,218	1,148	58,177	1,417	62,958	1,578				
Saskatchewan	10,019	823	38,704	1,503	58,700	1,916	61,857	1,999				
Alberta	18,287	908	66,834	1,351	102,003	1,517	117,473	1,815				
British Columbia	26,223	938	93,483	1,291	142,493	1,462	167,208	1,744				
Yukon and Northwest Territories	324	822	1,603	1,173	2,518	1,394	2,911	1,728				
Non-resident	441	1,037	2,189	1,141	3,389	1,114	4,372	1,394				
Canada	205,879	867	757,925	1,217	1,078,155	1,414	1,291,348	1,638				
Total contributions		\$178.6		\$922.6		\$1,524.3		\$2,115.5				
Source	Special tabulations of income tax data, Revenue Canada, Taxation.											

province. In national terms fewer than a quarter million persons who filed income tax returns in 1969 participated in the RRSP program and contributed \$178.6 million. By 1975 their numbers rose to over one million, and in aggregate they set aside well over one and a half billion dollars into RRSP accounts. Continuing the sharp upward trend in the following year, more than one and a quarter million tax filers in Canada purchased over \$2.115 billion worth of RRSPs. Over this same period the average contribution nearly doubled from \$867 in 1969 to \$1,638 by 1976.

Within Ontario as in the rest of the country, the response rate to the RRSPs brought increasing numbers into the program over the course of the 1970s. Participation rose considerably from the 89,459 who contributed in 1969 to well over half a million tax filers in 1976 (525,144). Comparable increases were recorded in the other provinces, but by far the largest number of participants were in Ontario. Consistently throughout this period, about 40 per cent of the active contributors in each tax year were in Ontario. Quebec, which was second in terms of numbers, by 1976 had only slightly over one-quarter million persons in the program.

Average contributions by Ontario participants closely followed the national average and usually was well below that of the western provinces, where on average the largest contributions were made. In 1969, for example, Ontario contributors on the average paid \$859 into an RRSP, surpassed by Quebec with \$867. Of the western provinces only Alberta and British Columbia surpassed this figure with an average of \$908 in Alberta and \$938 in British Columbia. By 1976 contributions nearly doubled, but the gap between the Ontario average and that of the West widened. Ontario, with an average of \$1,612 per RRSP was well below the \$1,815 level for Alberta and \$1,744 for British Columbia; but surpassing all of these and recording the highest level in the country was Saskatchewan, with average contributions of \$1,999. Indeed, through the 1970s, Saskatchewan participants unfailingly surpassed the other provinces in average contribution levels.

#### Accumulated RRSP Funds in Canada

Increasing contribution levels and rising participation are reflected in a steadily growing flow into RRSP funds. As may be seen in Table 3, what started out to be a trickle of funds in the mid-1950s and early 1960s became a veritable flood by the early 1970s. In the first ten years of their existence from 1958 to 1967, gross contributions into RRSP funds amounted to about half a billion dollars (\$547 million). But over the next ten years the accumulated gross inflow swelled to more than \$9.6 billion.

In 1977 alone, contributions amounted to well over \$2.3 billion, more than double the amount contributed in the first ten years of the program.



## Effect of Tax Changes in Ontario

Taxpayer participation in RRSPs appears to be responsive to the level of tax deferment allowable. Historically, each upward adjustment in allowable contribution ceilings has brought increasing numbers of taxpayers into the RRSP market, with a resultant sharp rise in gross contributions. Table 3 clearly shows these benchmarks. After a period of moderate year-to-year increases in gross cash inflows, the pattern was interrupted in 1975 by a sharp rise of some 42 per cent over the previous tax period. This appears to have been in response to a 1965 amendment which increased the contribution ceiling from the lesser of 10 per cent of income or \$1,500 for contributors to private pension plans and \$2,500 for all others, to 20 per cent of income, but with dollar limits unchanged. The next peak appears in 1972. In that year contribution limits were raised sharply, to the lesser of 20 per cent of eligible income, or \$2,500 for private plan contributors and \$4,000 for others. At this point gross contributions more than doubled to over \$645 million in 1972 from \$319 million the previous year. In 1973, the second year in which these higher contribution levels applied, gross RRSP contributions rose by another 43 per cent; they fell back in 1975 to a growth rate of 23 per cent, but still amounted to well over \$1.5 billion. The last increase in allowable limits was made in 1976, raising the dollar level to \$3,500 for contributing plan members, \$5,500 for others. In that year the taxpayers responded by increasing their input into RRSPs by some 39 per cent, bringing the total to a new high of \$2.115 billion for a single year. Although the contribution level continues to grow, preliminary figures for the 1977 tax year indicate that another \$2.355 billion were placed in RRSPs, for a lower growth rate of 11 per cent. Any conclusion to be drawn from this apparent downward trend in growth rate would be very speculative and premature at this time, since a single observation cannot be construed as indicative of a trend.

It should be emphasized, however, that the trend shown in Table 3 represents only the gross inflow into RRSP accounts and not the net amount that remains for long-term accumulation. Obviously, if the inflow is responsive to tax stimulus, some portion at least must be tax-sheltered funds and therefore subject to withdrawal. Also, over two decades of operation, the program contains some element of matured holdings that must be withdrawn to purchase annuities. The question arises, therefore, how much of the more than \$10 billion that streamed through RRSP accounts still remains for long-term accumulation to provide pension income for holders?

Comprehensive data related to total assets held in RRSP funds are not available, but some broad estimates can be made. Fairly complete data of net RRSP holdings by trust companies and mutual funds can be derived from recently published material.<sup>(3)</sup> The major information gaps are the insurance company RRSP funds which, in practice, represent a relatively small proportion of total RRSP sales. The relative size of



insurance company activity in the RRSP program may be seen in unpublished data from Revenue Canada, which show the number of new RRSP accounts that came into existence in the 1976 tax year. Of the nearly 705,000 new accounts in 1976, less than 180,000 were with insurance companies; in other words, they had about one-quarter of the new business in 1976. Data for these current funds as well as past accumulations are not available, with one minor exception. That is the RRSP component of insurance company segregated funds designed primarily for the private pension industry. Of the total segregated fund assets of well over \$3.5 billion in 1977(4) only \$200 million were RRSP allocations.

Table 3  
Contributions to RRSP Funds in Canada, 1958-1977

	Annual contributions (Thousands of dollars)	Annual increase (Per cent)
1958	19,004	-
1959	20,000(a)	5
1960	27,526	-
1961	34,322	25
1962	40,456	18
1963	46,456	15
1964	57,704	24
1965	81,997	42
1966	100,618	23
1967	118,864	18
1958-1967	546,947	
1968	142,618	20
1969	178,600	25
1970	225,200	26
1971	319,800	42
1972	645,100	100
1973	922,600	43
1974	1,243,700	35
1975	1,524,500	23
1976	2,115,500	39
1977	2,355,000(b)	11
1968-1977	9,672,618	
1958-1977	10,291,565	

a Estimate

b Preliminary figure provided by Revenue Canada, Taxation.

Source Revenue Canada, Taxation, Taxation Statistics, Annual reports for Taxation Years 1958-1976.

Based on these data, it is estimated that by the end of 1977 assets held in RRSP funds, exclusive of those held by chartered banks and insurance companies (other than their limited segregated component) amounted to well over \$6 billion. The actual amount undoubtedly is considerably higher; as a conservative estimate the assets could be ex-

pected to amount to between \$6 and \$7 billion, and probably closer to the \$7 billion figure. On this basis, therefore, the actual flow-through of \$10 billion paid into the RRSP program since its inception has ended with a 30 to 35 per cent net cash-out. This is not out of line with the cash-out rate one would expect from a program where approximately 80 per cent of the participants indicated that their purchases were made for pension purposes as disclosed in the Commission's survey. The assets remaining in RRSP funds largely represent net savings for pension purposes. As such, they constitute a very substantial pool of funds accumulated as part of personal pension programs. The following sections will look at these discretionary savings in Ontario.

#### RRSPs IN ONTARIO: HISTORICAL TRENDS

This section will be limited to a review of RRSPs in the 1970s, a period which has seen tremendous growth in numbers and volume of purchases in Ontario as well as in the rest of the country. As noted above, participation in RRSPs has been stimulated by significant changes in maximum contribution levels. Furthermore, as more and more women entered the labour force, increasing numbers participated in the RRSP program, swelling further the funds put aside in this savings vehicle.

Table 4 shows how participation of tax filers in Ontario increased over the 1970s. In aggregate, the proportion of tax filers in Ontario with RRSPs followed closely the national pattern. By 1976, Ontario participants represented 10.7 per cent of all persons who filed a tax return in Ontario, compared with 10.5 per cent for all of Canada.

As in the rest of the country, participation increases sharply with income. At the lower income levels where there is little discretionary income available, participation rates are very low indeed. The major break is at the \$10,000 level, from which point increasing amounts of discretionary income become available. This is reflected in the responsiveness of persons at the \$10,000 a year and over categories to tax stimulus. As the maximum allowable contributions to RRSPs increase, increasing proportions of the individuals at these income categories participate in RRSPs. At \$25,000 and over, for example, about one-third of tax filers in 1969 had RRSPs. By 1973, one year after the first major increase in maximum contribution levels was introduced, the ratio rose to 53 per cent; in the following years it dropped somewhat, and in 1976, after the final rate change was made, 51.5 per cent purchased RRSPs. Over the same period, those at the \$10,000-\$14,999 income range increased from 7.7 per cent in 1969 to 12.7 per cent in 1973 and remained at just over 12 per cent for the other periods.

The pattern varied considerably between men and women participants. Among men, the proportion of purchasers at \$25,000 and over increased from 36 per cent in 1969 to 55 per cent in 1973, then down somewhat to about 54 per cent in 1975 with another small decline to 52 per cent in

Table 4

Proportion of Tax Filers in Ontario Who Contributed to RRSPPs, (a) by Sex and Income Class, Selected Years, 1969-1976

Income class (Dollars)	1969			1973			1975			1976		
	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes
						(Per cent)						
Under 2,000	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.1	.1
2,000-2,999	.3	.3	.3	.8	.6	.7	.5	.4	.5	.4	.5	.5
3,000-3,999	.6	.6	.6	1.0	1.3	1.1	1.1	.8	.9	1.1	.6	.8
4,000-4,999	1.0	1.0	1.0	1.9	1.4	1.7	1.8	1.2	1.5	1.9	1.5	1.7
5,000-5,999	1.5	2.5	1.8	2.3	2.9	2.6	1.4	2.2	1.9	2.7	2.7	2.7
6,000-6,999	1.8	2.6	1.9	3.8	5.7	4.7	3.7	2.9	3.3	3.8	3.0	3.4
7,000-7,999	2.3	4.2	2.6	5.1	7.4	6.0	4.9	5.1	5.0	3.1	5.1	4.2
8,000-8,999	2.9	5.8	3.2	6.5	9.5	7.3	5.4	7.8	6.6	7.0	6.7	6.8
9,000-9,999	3.1	7.6	3.5	7.5	11.5	8.2	5.6	8.3	6.6	6.6	8.2	7.4
10,000-14,999	7.2	13.8	7.7	11.8	20.2	12.7	11.1	15.8	12.1	11.5	14.7	12.4
15,000-19,999	17.2	14.5	17.0	25.5	32.5	26.1	20.8	30.7	21.9	20.0	30.5	21.5
20,000-24,999	24.0	16.2	23.5	38.4	31.3	37.9	35.2	37.2	35.4	30.9	38.9	31.7
25,000 and over	36.3	12.8	34.6	55.3	26.0	53.0	53.8	33.4	52.2	52.1	43.9	51.5
Total	3.2	1.3	2.5	9.4	3.6	7.0	12.2	4.9	9.1	14.1	6.1	10.7

a Includes all persons in Ontario who filed an income tax return whether or not they paid income taxes.

Source Statistics Canada, special tabulations of income tax data.



1976. At all income categories above \$10,000 the proportion of women participating in RRSPs increased sharply and remained at a high level throughout the period under review. For example, in the \$20,000-\$24,999 income category the proportion of women purchasers nearly doubled in 1973 to 31 per cent, up from 16 per cent in 1969. By 1975 it rose to 37 per cent, and by 1976 nearly 39 per cent of the women at this income level had RRSPs. More dramatically, in the \$25,000 and over category the proportion rose from nearly 13 per cent in 1969 to almost 44 per cent in 1976. In general terms, therefore, not only were there sharp increases in the proportion of participants, but when related to an increasing labour force, particularly of women workers, these ratios showed an even greater net increase in absolute terms as well.

### Ontario RRSP Contributors

This section will examine the growth of RRSPs in Ontario discussed above, translating the proportion of tax filers in the program into real terms, providing some insight into the magnitude of participation in the province. In these terms, the first half of the 1970s saw the same high level of participation in Ontario as in Canada as a whole. In 1969, just before this decade began, more than 89,000 people in Ontario used the facilities of the RRSP, but by the end of the 1976 tax year the figure had gone up to well over half a million persons. Comparable growth occurred in average contributions as well. (See Table 5.)

It has been hypothesized that "a taxpayer's valuation of an 'attractive rate of government subsidy' will be diminished if the allowable contribution is an insignificant portion of assessable income."<sup>(5)</sup> Taxpayer response has indeed been sensitive to contribution limits. Thus, when the major revisions to the Income Tax Act in 1972 included a significant change in allowable RRSP contribution limits,<sup>(6)</sup> taxpayer response was reflected not only in a dramatic growth of participation but also in a sharp rise of aggregate and average contributions. These changes stimulated unprecedented taxpayer response not only in terms of participants, but in average contributions as well. From 1971 to 1972 RRSP contributors increased at a phenomenal rate of 82 per cent to total of nearly 272,000, while the average contribution increased to \$1,191. Aggressive marketing and increased interest by most financial institutions in attracting this business maintained the growth of RRSP participation at a high rate, though not quite at the same high level as the initial spurt in 1972. Over the past few years participation in Ontario has been growing at an annual rate of about 20 per cent. Additional upward adjustments in the allowable contributions in 1976 failed to materially stimulate participation in Ontario, so that the growth rate remained at 20 per cent as in the previous two years. But the change did bring out more contributions, with the average contribution increasing in the one year between 1975 and 1976 by 15 per cent, nearly double the annual rate of increase in the previous year.



Data on male and female mix of participation in Ontario for 1971 are not available; but notwithstanding this data gap, some general observations can be made. As noted earlier, one factor that has helped sustain a high level of growth has been the increasing participation of women in RRSPs. For example, between 1973 and 1975 the number of men in the program increased by 36 per cent, whereas women increased by 54 per cent. This rate continued; in 1976 the number of men went up by 19 per cent while women rose by 25 per cent.

#### Age Distribution Patterns in the 1970s

While participation in RRSPs is primarily income related, there are some observable trends in the age distribution of purchasers over recent years. Generally, the proportion tends to be lower at the younger age groups for two main reasons. First, this age group tends to be largely at the lower income scale, and second, young people are usually more concerned with current consumption than saving for the future.

Table 5

Number of Contributors in Ontario and Average RRSP Contributions, by Sex, Selected Years, 1969-1976

	Men		Women		Both sexes	
	Number	Average contribution	Number	Average contribution	Number	Average contribution
1969	71,859	\$ 946	17,600	\$ 562	89,459	\$ 872
1971(a)	-	-	-	-	149,118	909
1972(a)	-	-	-	-	271,602	1,191
1973	246,246	1,303	65,650	868	311,897	1,212
1975	335,826	1,487	101,161	1,133	436,987	1,405
1976	398,219	1,712	126,925	1,296	525,144	1,612

a Separate data for men and women not available for these years.

Source Special tabulations provided by Statistics Canada. Non-published data provided by Revenue Canada, Taxation.

Savings through the RRSP program seems to be concentrated mostly among those in their middle to later working years. By age 60 the proportion with RRSPs tends to start dropping off, with a sharp decline evident at the age 65 level as one would expect, since it follows normal retirement trends.(7) That age is also a time when holders may start to liquidate their RRSPs rather than add to them. Thus, at age 65 and over, the proportion of taxpayers in Ontario buying RRSPs drops sharply and over the years ranges from 2 to 3 per cent. Since these funds must be converted to an annuity in some form by age 71, contributions made by those aged 65 and over are obviously short-term savings, and one would suspect that they are motivated more by tax consideration than pension concerns.

As in all other characteristics, the age pattern for women is different from that for men. Men under 30 are still in the early stages of their working life when they have heavy financial responsibilities supporting growing families, buying and maintaining homes, etc., and so are less likely to have much in the way of discretionary funds for savings. At this age level RRSP purchasers were in fact few. Only 8 per cent of Ontario purchases in 1969 were made by this age group; and over the years the proportion remained low, rising to only 13 per cent of the men in 1976. By contrast, the proportion of women in this age group who bought RRSPs, though still relatively low, increased sharply during the 1970s. The age group 25-29 which alone accounted for the major part of the rise, nearly tripled from 4.9 per cent in 1969 to 12.7 per cent in 1976. In total, women under 30 represented nearly 19 per cent of the women purchasers.

Consistently over the years under review, three-quarters of the men who bought RRSPs were aged 30 to 59, spread more or less evenly among the various age groups (see Table 6). The trend seems to point toward proportionately more of the younger age groups participating as the 1970s rolled on. Thus, in 1969, only 7.6 per cent of the men were aged 30 to 34; by 1976 that group amounted to 12.4 per cent of all male purchasers. By contrast, the 45-49 age group dropped from 17.6 per cent of the total in 1969 to 13.7 per cent in 1976. Similar declines were recorded in the 50-54 and 55-59 age groups.

The distribution for women was spread over a wider age range. By 1976 nearly 30 per cent of the women purchasing RRSPs were under 35 years of age. Another 53 per cent were between 40 and 59. This latter age group remained relatively constant in the proportion of participants over the years, ranging from 66 per cent in 1969 to over 54 per cent in both 1973 and 1975 and down slightly to 53 per cent in 1976.

#### Contributions in Ontario by Income

As noted earlier, participation in RRSPs is very much a function of income. With a higher income, more discretionary funds are available for savings; this shows up clearly in the income distribution of RRSP participation in Ontario (see Table 7). Very clearly, the concentration is at the higher income levels. However, an examination of changes over recent years reveals some sharp differences in general patterns and overall trends in the distribution of male and female participants in Ontario.

As may be seen in Table 7, participation by men was concentrated among those whose annual incomes were \$10,000 or over. In 1969 nearly 62 per cent of the men in Ontario who purchased RRSPs were at these income levels. As the general level of incomes in Canada and Ontario increased over the 1970s and the allowable limits rose, attracting greater taxpayer response, this concentration became even more pronounced. By 1973, nearly 79 per cent of the men were at these income

Table 6  
Proportion of Contributors to RRSPs in Ontario, by Age and Sex, Selected Years, 1969-1976

	1969			1973			1975			1976		
	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes	Men	Women	Both sexes
Age not specified	-	-	-	-	-	-	-	-	-	-	-	-
Under 18	.1	.2	.1	.1	.1	.1	-	-	-	.1	-	.1
18-24	2.2	5.0	2.7	3.5	6.5	4.1	-	4.5	3.7	3.5	6.1	4.1
25-29	5.8	4.9	5.6	9.1	8.9	9.0	9.9	11.8	10.3	9.8	12.7	10.5
30-34	7.6	5.1	7.1	10.6	9.2	10.3	12.3	8.7	11.4	12.4	10.4	11.9
35-39	11.1	7.6	10.4	10.8	8.6	10.4	11.1	9.3	10.7	12.3	7.4	11.1
40-44	15.8	12.1	15.1	13.9	13.4	13.8	13.1	10.8	12.6	11.5	9.6	11.0
45-49	17.6	19.9	18.1	15.3	11.5	14.5	13.3	15.1	13.7	13.7	14.1	13.8
50-54	15.9	18.8	16.5	15.1	16.6	15.4	14.3	16.8	14.9	12.9	15.5	13.6
55-59	13.3	15.8	13.8	11.6	13.3	12.0	11.3	11.9	11.4	11.9	13.8	12.3
60-64	7.6	9.1	7.9	7.7	10.1	8.2	8.8	8.5	8.8	9.0	7.7	8.7
65-69	2.8	1.4	2.5	2.1	1.8	2.0	2.3	2.5	2.4	2.8	2.6	2.8
70 and over	.2	.1	.2	.3	-	.2	.2	.2	.2	.2	.2	.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total contributors	17,859	17,600	89,459	246,247	65,650	311,897	335,826	101,161	436,987	398,219	126,925	525,144

Source Special tabulations provided by Statistics Canada and Revenue Canada, Taxation.



levels. The proportion continued to rise over the intervening years, and by 1976 it was over 92 per cent of all male participants in Ontario.

Looking at individual income classes in this broad range, the concentration shifts to the higher levels. In 1973, nearly 32 per cent of men with RRSPs were in the \$10,000-\$14,999 income range, while only 17 per cent had earnings of \$25,000 or more. By 1976, there was a distinct shift towards the higher income groups, with the \$10,000-\$14,999 class dropping to 20 per cent, the \$25,000 and over class increasing to 29 per cent, and with smaller upward shifts in the intervening income groups.

Generally, the distribution of women with RRSPs was concentrated at lower income levels, a reflection in part of the fact that women tend to earn less than men. In 1969, slightly over 64 per cent of the women had incomes ranging from \$5,000 to \$14,999; this rose to 75 per cent in 1973. By 1975, however, as with the men, the concentration shifted toward higher levels so that nearly 81 per cent of the women with RRSPs were earning between \$6,000 and \$19,999. This ratio dropped slightly to 78 per cent in 1976, but at the same time the proportion of women with incomes of more than \$20,000 increased, further emphasizing the shift in participation to persons with higher incomes. In 1976, more than 54 per cent of the women with RRSPs had annual earnings between \$10,000 and \$20,000 compared with only 21 per cent in 1969.

Table 7

Proportion of RRSP Contributors in Ontario, by Income and Sex, 1969-1976

Income class (Dollars)	1969		1973		1975		1976	
	Males	Females	Males	Females	Males	Females	Males	Females
	(Per cent)							
Under 2,000	.9	6.9	.3	2.1	.3	1.0	.1	.5
2,000- 2,999	.7	3.9	.5	2.4	.2	1.0	.2	.9
3,000- 3,999	1.5	8.0	.6	4.1	.4	1.6	.4	1.0
4,000- 4,999	2.7	9.8	1.1	4.4	.7	2.1	.6	1.9
5,000- 5,999	4.8	15.7	1.4	8.2	.5	3.7	.7	3.2
6,000- 6,999	6.4	10.1	2.5	12.0	1.3	4.7	1.1	3.5
7,000- 7,999	7.9	8.6	3.6	11.6	1.8	7.6	.9	5.8
8,000- 8,999	7.6	7.4	5.1	10.7	2.1	9.5	2.0	7.2
9,000- 9,999	5.9	5.4	6.1	7.7	2.5	7.7	1.9	7.5
10,000-14,999	24.4	16.9	31.8	24.3	25.0	35.0	20.3	34.3
15,000-19,999	14.0	4.2	19.8	7.7	24.8	16.3	25.6	20.0
20,000-24,999	7.4	1.4	10.1	2.4	15.7	5.5	17.3	7.6
25,000 and over	15.9	1.7	17.1	2.6	24.5	4.3	29.1	6.6
Total(a)	100	100	100	100	100	100	100	100

a May not add up to 100 per cent because of rounding.

Source Special tabulations provided by Statistics Canada and Revenue Canada, Taxation.

## PROFILE OF RRSP CONTRIBUTORS IN ONTARIO, 1976

This section will discuss the current status of RRSP contributors in Ontario as it had evolved by 1976, the latest year for which comprehensive income tax data are available. Coincidentally, in 1976 another upward revision in the maximum allowable contributions was made increasing the limits to \$3,500 for pension plan contributors and \$5,500 for those without such contributions, or, as previously, 20 per cent of income, whichever is less. Undoubtedly this change stimulated an increased response; therefore, the year-to-year changes in patterns of participation will be examined in some detail. This section will review the changes as they relate to age, sex, and income. Finally, to round out the profile, this section will also look at RRSP purchases by employer pension plan members, participation by occupational groups, and the extent of taxpayer response to the program in selected locations throughout the province.

### Contributors by Age and Sex, 1976

The 1976 amendments to contribution rates brought an increased number of Ontario taxpayers into the RRSP market. This increase was below the record rises in the past, and far below that following the 1971-72 changes; nonetheless, at 20 per cent in aggregate it represented a significant increase over the previous year. More significant, however, were the changes in the components of this increase which affected the pattern and structure of participation in the province.

Changes in the distribution of Ontario purchasers by age and sex show some alteration in overall patterns. Proportionately more women than men entered the RRSP market in 1976. The increase for women over the 1975 level was 25 per cent compared with a 19 per cent rise for men. Looking at the percentage increase from 1975 to 1976 for women alone, a number of interesting changes may be seen (see Table 8). Some of the largest percentage increases occurred among women in younger age groups. Those aged 18-24 increased participation by 72 per cent, the largest growth recorded in the total age structure. Some other large increases occurred in the age categories between 18 and 34. Considerably lower increases were recorded at the middle ages between 35 and 54, while the 55-59 age category showed a 46 per cent rise.

The growth pattern among men was somewhat different. Proportionate increases were distributed fairly evenly among most age categories, with a slight bulge in the 35-39 age group and much greater increases at the older age levels. Specifically, the 65-69 category increased by 44 per cent and the group 70 and over increased by 73 per cent; even with these percentage increases, they represented very small numbers and remained a small proportion, 3 per cent, of the total male contributors to RRSPs in Ontario.

Table 8  
Percentage Increase of RRSP Contributors in  
Ontario, by Age and Sex, 1975-1976

	Men	Women	
		(Per cent)	
Under 18	250	-	
18-24	21	72	
25-29	17	35	
30-34	20	49	
35-39	31	0	
40-44	24	11	
45-49	22	18	
50-54	8	16	
55-59	25	46	
60-64	20	13	
65-69	44	29	
70 and over	73	45	
Total	19	25	20(a)

a Both Sexes.

Source Derived from non-published material  
provided by Revenue Canada, Taxation.

#### Contributions by Age, 1976

Turning to contribution patterns in Ontario during the 1976 tax year, it is evident that as participants approach retirement age they tend to put more and more aside in RRSP funds (see Table 9). In aggregate about one-third of the Ontario RRSP contributors were below age 40, and as a group their average contribution was well below the provincial average of \$1,612 in 1976. Starting at age 40 all higher age categories showed contributions greater than the provincial average, and at each succeeding age category the difference increased. Those in the 40-44 age group averaged \$1,686, only slightly above the provincial level. This rose to \$1,752 in the next category, age 45-49, and to \$1,797 for the age group 55-59. Just prior to age 65, when most retirements in Canada occur, contributors in the age category of 60-64 paid an average of \$2,067 into RRSP funds.

In virtually all age categories, with the single exception of those aged 25-29, men on the average contributed more than women, so that at the provincial level the average for men at \$1,712 in 1976 was well above that for women at \$1,296. As noted for aggregate trends, the pattern for men consistently showed an increase in average contributions as age increased. While the overall trend for women was the same, there were some breaks. Specifically, the average dropped slightly at age 30-34 and showed a more pronounced drop for the age group 60-64.



Table 9  
Number of Contributors to RRSPs in Ontario, by Age and Sex, Showing Total and Average Contributions, 1976

	Male			Female			Both sexes		
	Total		Average	Total		Average	Total		Average
	Contributors (Number)	contributions (Thousands of dollars)	contribution (Dollars)	Contributors (Number)	contributions (Thousands of dollars)	contribution (Dollars)	Contributors (Number)	contributions (Thousands of dollars)	contribution (Dollars)
Under 25	14,919	9,879	698	7,748	4,588	592	21,897	14,467	661
25-29	38,874	38,482	990	16,076	17,521	1,090	54,950	56,003	1,019
30-34	49,281	68,967	1,399	13,140	13,401	1,020	62,421	82,368	1,320
35-39	48,867	75,850	1,552	9,449	11,294	1,195	58,316	87,144	1,494
40-44	45,607	79,304	1,739	12,137	18,040	1,486	57,744	97,344	1,686
45-49	54,703	103,038	1,884	17,906	24,149	1,349	72,609	127,187	1,752
50-54	51,566	98,749	1,915	19,697	28,692	1,457	71,263	127,441	1,788
55-59	47,260	92,085	1,948	17,493	24,295	1,945	64,753	116,380	1,797
60-64	35,725	79,791	2,205	9,738	15,179	1,559	45,463	93,970	2,067
65 and over	12,187	35,624	2,923	3,541	7,346	2,075	15,728	42,970	2,732
Total	398,219	681,767	1,712	126,925	164,506	1,296	525,144	846,273	1,612

Source Derived from non-published data provided by Revenue Canada, Taxation.

### Contributors by Income, 1976

As noted earlier, participation in RRSPs is most responsive to income levels. The percentage change from 1975 to 1976 is shown in Table 10. Among women the numbers at most lower income levels declined. The sharpest drops were for those earning under \$2,000 which went down by 40 per cent from the 1975 levels, while at \$3,000-\$3,999 the numbers went down 24 per cent. Increases were centred mainly at the higher income levels, \$9,000 and over, reflecting the continued concentration of participation at these levels as discussed earlier. Extremely large rises occurred in the \$15,000-\$19,999 income category which went up by over 50 per cent while at the next two highest levels the growth was 75 per cent and 94 per cent respectively.

Table 10

Percentage Change of RRSP Contributors in Ontario,  
by Income and Sex, 1975-1976

Income class (Dollars)	Percentage change	
	Men	Women
Under 2,000	-40	-40
2,000- 2,999	-27	17
3,000- 3,999	-10	-24
4,000- 4,999	0	11
5,000- 5,999	66	9
6,000- 6,999	-6	-8
7,000- 7,999	-40	-4
8,000- 8,999	9	-6
9,000- 9,999	-12	23
10,000-14,999	-4	23
15,000-19,999	22	54
20,000-24,999	31	75
25,000 and over	41	94
Total	19	25
20(a)		
a Both sexes		

Source Derived from unpublished data from Revenue  
Canada, Taxation.

Among men in most income categories below \$15,000, the numbers declined, rather sharply at some levels. Men with incomes below \$2,000 and those who earned between \$7,000-\$7,999 both dropped by 40 per cent. The two main exceptions to this general trend were at the \$5,000-\$5,999 and \$8,000-\$8,999 ranges - the first rising sharply by 66 per cent and the second less dramatically at only 9 per cent. While the income categories over \$15,000 did not rise nearly as sharply as for women in these income categories, they nevertheless showed substantial increases, fur-

ther emphasizing the shift towards greater concentration of participants in the higher income levels.

Table 11 summarizes the effect of these changes, showing the distribution in real and relative terms of contributors in Ontario by sex and income as well as their average contribution in 1976. At most income levels, the average contribution was well below the provincial average of \$1,612. Only at the higher income levels did it go above the provincial average. Even at the top level of \$25,000 and over, contributors on the average put aside \$2,849, well below their maximum allowable limit.

Looking behind the average, the last income range was expanded so as to see how the pattern changes within this broader income spectrum. Within these ranges participants were concentrated in the \$25,000-\$49,999 income category; the 103,884 persons with this level of income on the average contributed \$2,544 to their RRSP programs. At the higher levels, \$50,000-\$99,999 and \$100,000 and over, contributions averaged \$4,328 and \$4,890 respectively, though the numbers in each category were considerably smaller. It is interesting to note that only at these latter two income levels did the average contribution approach the maximum allowable limit.

The average contribution for women at \$1,296 was well below the provincial average for both sexes and that of men only. However, at the upper mid-income categories women tended to contribute more to RRSPs than did men. In part this may reflect their proportionately lower participation rate in private pension plans, hence a larger margin for tax deferred contributions. Although far fewer women than men participants had earnings of \$25,000 or over, nevertheless their average contribution tended to be almost equal to that of men at \$2,868 - some \$20 above the male average.

#### Dual Contributors in Ontario, 1976

Although the main objective of the RRSP program was to provide a tax-induced private sector retirement savings facility for individuals outside of pension plans, it did not exclude other taxpayers. Thus, even those individuals who were active, contributing members of employer pension plans could also participate, within certain limits, in this individual-oriented program. Ever since their introduction, RRSPs have attracted large and growing numbers of pension plan members who presumably sought to supplement their employment pensions with this form of individual pension savings. For ease of reference, these individuals will be referred to in this study as "dual contributors," that is, contributors to both RRSPs and employment pension plans.

The immediate tax relief allowable under the RRSP program in effect is a government subsidy. Furthermore, a comparable subsidy is also given to the individual who contributes to a private pension plan. Thus



Table 11

Ontario Tax Filers Who Contributed to RRSPs, by Income and Sex, Showing Average Contribution, 1976

Income class (Dollars)	Men			Women			Both sexes	
	Number	Per cent	Average Contribution (Dollars)	Number	Per cent	Average Contribution (Dollars)	Number	Per cent Contribution (Dollars)
Under 2,000	556	.1	641	633	.5	328	1,189	.2 459
2,000-2,999	605	.2	346	1,200	.9	474	1,805	.3 431
3,000-3,999	1,399	.4	218	1,208	1.0	423	2,607	.5 311
4,000-4,999	2,315	.6	412	2,369	1.9	328	4,684	.9 370
5,000-5,999	2,932	.7	502	4,072	3.2	535	7,004	1.3 522
6,000-6,999	4,426	1.1	626	4,421	3.5	619	8,667	1.7 622
7,000-7,999	3,667	.9	658	7,364	5.8	715	11,031	2.1 696
8,000-8,999	7,789	2.0	707	9,089	7.2	762	16,878	3.2 736
9,000-9,999	7,393	1.9	799	9,559	7.5	953	16,952	3.2 886
10,000-14,999	80,748	20.3	976	43,523	34.3	1,240	124,271	23.7 1,068
15,000-19,999	101,831	25.6	1,269	25,414	20.0	1,552	127,244	24.2 1,325
20,000-24,999	69,046	17.3	1,803	9,671	7.6	1,935	78,717	15.0 1,820
25,000 and over (See below)	115,693	29.1	2,848	8,402	6.6	2,868	124,095	23.6 2,849
Total	398,219	100.0	1,712	126,925	100.0	1,296	525,144	100.0 1,612
25,000 and over								
25,000-49,999	-	-	-	-	-	-	103,844	2,544
50,000-99,999	-	-	-	-	-	-	16,981	4,328
100,000 and over	-	-	-	-	-	-	3,230	4,890
Total \$25,000 and over	-	-	-	-	-	-	124,095	2,849
Source	Derived from unpublished data prepared by Revenue Canada, Taxation.							

the extent of the subsidy varies sharply between that available to the dual contributor who can claim immediate tax relief under both programs and the participant whose only allowable pension saving is the RRSP.

A dual contributor has a two-phased tax benefit - one related to contributions to the employer's plan and the other to the RRSP. The tax relief allowable under both these plans in effect is a government subsidy.(8) To make this subsidy more equitable, dual contributors are limited to combined contributions amounting to the lesser of 20 per cent of income or \$3,500, whereas those not contributing to a private plan may place up to \$5,500 in RRSPs (according to the latest amendment effective in 1976).

Of the 525,000 persons in Ontario reporting RRSP contributions in the 1976 tax year, nearly 40 per cent were dual contributors. The 60 per cent with RRSPs only numbered some 318,000. Although in aggregate there was a 60-40 split, the ratio varied widely according to income levels. At the lower income levels, i.e. below \$8,000, the ratios of those with only RRSPs ranged from 99 per cent for the very low levels to 90 per cent at the \$7,000-\$7,999 range, dropping sharply to 70 per cent at \$8,000. At the higher income ranges where most of the dual contributors were concentrated, the proportion with RRSPs only dropped to a range of 53 to 56 per cent at the \$15,000 to \$25,000 and over levels. This pattern had a direct effect on the average RRSP contribution in the various income ranges.

Table 12 compares the average contribution for those with RRSPs only with all RRSP contributors in Ontario in 1976. Since the maximum allowable contribution limit is higher for those without active financial participation in employer pension plans, their average contribution was generally much higher than the average for all Ontario RRSP contributors. At the lower income scale, below \$8,000, there were very few dual contributors to deflate the figures. The averages differed only marginally, and in two or three income ranges the overall average was even slightly higher than that of contributors with RRSPs only. The significant changes appear at the higher levels where increasing proportions of RRSP holders were dual contributors, so that the overall average fell significantly below that of RRSP-only purchasers.

As income increases, the amount set aside for pension savings increases as well. Undoubtedly, some individuals at all income levels contributed up to the maximum allowable, but their numbers obviously were too few to bring the averages closer to the maximum. Thus, even the highest level - those with incomes of \$25,000 and over - on average contributed \$3,732 into an RRSP, well below the \$5,000-\$5,500 permissible at this income range. Indeed the average contribution for most income categories ranged from 8 to 10 per cent of income.

A somewhat different pattern emerges for dual contributors (see Table 13). Their RRSP contributions are of course considerably lower,

if for no other reason than their lower basic allowable limit. Generally speaking, however, the combined average contribution to RRSPs plus employer's pension was considerably higher than for tax filers whose sole tax-deferred savings consisted of RRSPs. At the lower extremities of the income scale, combined pension savings of dual contributors were substantially lower at most ranges below \$7,000. From this point their total savings allocations in each succeeding income class were considerably higher, with the single exception of the top income range of \$25,000 and over where dual contributors averaged \$3,108 compared with \$3,732 for those who had RRSPs only.

Dual contributors in general paid out a higher proportion of their incomes for both savings programs although they were still far below the 20 per cent maximum allowable. The proportion of income on the average was consistently higher at most income classes for dual contributors. At most income levels the proportion paid out for both RRSPs and employer pensions ranged from 11 to 14 per cent although it fell below this range for some of the lower income classes. By contrast, tax filers with only RRSP contributions on the average put aside 8 to 10 per cent of their income into these savings.

Table 12

RRSP Contributors in Ontario Who Made No Contribution to a Private Pension Plan, Showing Average RRSP Contribution and Average Contributed by All RRSP Contributors in the Province, 1976

Income class (Dollars)	RRSP only as percentage of of all RRSP (Per cent)	RRSP only		Average contribution by all RRSP contributors (Dollars)
		Contributors (Number)	Average contribution (Dollars)	
Under 2,000	97	1,052	465	459
2,000- 2,999	97	1,758	438	431
3,000- 3,999	99	2,626	310	311
4,000- 4,999	92	4,316	348	370
5,000- 5,999	96	6,721	537	522
6,000- 6,999	93	8,037	645	622
7,000- 7,999	90	9,905	688	696
8,000- 8,999	70	11,883	771	736
9,000- 9,999	72	12,214	954	886
10,000-14,999	65	80,836	1,133	1,068
15,000-19,999	53	67,622	1,461	1,325
20,000-24,999	54	42,294	2,066	1,820
25,000 and over	56	69,184	3,732	2,849
Total	61	318,488	1,809	1,612

Source Derived from Revenue Canada, Taxation data.



Table 13

Dual Contributors in Ontario by Income, Showing Average Contribution to Each of Private Pension and RRSP Plus Combined Contribution Average, 1976

Income class (Dollars)	Contributors (Number)	Average contribution to private pensions (Dollars)	Average RRSP contribution (Dollars)	Average combined contribution to RRSP plus private pension (Dollars)
Under 2,000	32	89	266	355
2,000- 2,999	47	39	180	219
3,000- 3,999	36	63	380	444
4,000- 4,999	368	172	448	620
5,000- 5,999	289	197	153	350
6,000- 6,999	636	152	336	488
7,000- 7,999	1,130	264	769	1,035
8,000- 8,999	4,998	234	654	887
9,000- 9,999	4,741	326	709	1,035
10,000-14,999	43,444	495	948	1,443
15,000-19,999	59,584	743	1,171	1,914
20,000-24,999	36,424	960	1,533	2,493
25,000 and over	54,924	1,372	1,736	3,108
Total	206,656	868	1,307	2,175

Source Derived from Revenue Canada, Taxation data.

#### Participation of Ontario Tax Filers by Occupation

Self-employed professionals and business proprietors most closely represent the self-employed components of the labour force for whom the RRSP program was originally designed. Among these occupational categories the degree of participation is relatively high. The highest is found in the professional categories (see Table 14). In aggregate, slightly over 53 per cent contributed to an RRSP in 1976. Within the group the proportions ranged widely from a participation rate of 81 per cent for doctors to around 27 per cent for entertainers and others. Business proprietors participated to a much lesser degree with just over 16 per cent contributing to an RRSP. Presumably, RRSPs play a relatively small role in pension planning for this occupational group. For many, the perpetuation of their business enterprises represents the primary intended source of support for their later years.

Similar comments apply to property owners and investors. Their marginal participation in RRSPs suggests that they too look upon the program only as a supplement. Their planning revolves mainly around

their investments and properties as the primary source of savings for old age.

Low participation for employees may be attributable to a combination of factors. Many employees, including those in both the private and public sectors, are members of employer pension plans. This of course is not necessarily a deterrent to purchases of RRSPs, as is clear from the incidence of "dual contributors" discussed earlier. Nevertheless, many members of employer plans do not supplement their pensions with RRSPs. No doubt a cogent deterrent is the relatively low income levels of many, leaving them with little if any discretionary income for additional savings.

Table 14

Participation in RRSPs of All Tax Filers in Ontario, by General Occupational Groups, 1976

Occupation	RRSP participants	All tax filers(a)	Participants to tax filers (Per cent)
Self-employed doctors	8,606	10,615	81.0
Self-employed lawyers	3,600	5,708	63.1
Self-employed dentists	2,165	2,735	79.2
Self-employed engineers	532	1,027	51.8
Self-employed accountants	1,819	2,738	66.4
Entertainers and artists	1,879	6,813	27.6
Other professionals	2,816	10,717	26.3
Total professionals	21,417	40,353	53.1
Farmers	9,391	65,823	14.3
Fishermen	30	374	8.0
Business proprietors	26,718	164,307	16.3
Salesmen	3,409	12,484	27.3
Property owners	3,066	35,448	8.6
Investors	9,702	241,218	4.0
Pensioners	5,460	504,828	1.1
Employees	441,163	3,584,828	12.3
Unclassified	4,788	283,646	1.7
Total	525,144	4,887,996	10.7

a Includes not only taxpayers but all persons in Ontario who filed an income tax return in 1976, whether or not they paid any income tax.

Source Derived from data provided by Revenue Canada, Taxation.

Translating these occupational patterns into dollar terms, Table 15 shows the total and average contributions in 1976 made by broad occupational groups. Business employees on average contributed \$1,544 to RRSPs, well above the levels for teachers, institutional and government

employees. The latter groups by and large were contributing members of employer pension plans and as such had a much lower limit to their contribution levels. Although some of the business employees no doubt were also covered by private plans, most of these were in non-contributory plans and to a larger extent, many probably were outside of a private plan altogether. These factors would account for their higher average contribution.

Table 15

Participation in RRSPs in Ontario and Average Contribution by General Occupational Groups, 1976

Occupational group	Participants	Total contributions (Thousands of dollars)	Average contribution (Dollars)
Business employees	306,434	473,287	1,544
Teachers and institutional and unclassified employees	62,608	80,327	1,283
Government employees	72,121	90,040	1,248
Total farmers and fishermen	9,421	19,677	2,089
Total professional	21,417	80,174	3,743
Total salesmen	3,409	7,133	2,092
Total businessmen	26,718	48,693	1,822
Total financial	12,768	25,262	1,979
Other and unclassified	10,248	21,680	2,116
Total	525,144		

Source Derived from data provided by Revenue Canada, Taxation.

Professionals who recorded the highest participation rate in 1976 also on the average contributed the highest amount at \$3,743. Their contributions were more than double the provincial average. Also among the highest contributors were farmers and fishermen at \$2,089 and salesmen at \$2,092.

#### Contributors and Contributions in Selected Ontario Localities, 1976

Table 16 provides some indication of taxpayer response to the RRSP program in selected areas of Ontario, showing the number of persons who in 1976 contributed to RRSPs, as well as their total and average contributions. About 57 per cent of the contributors were concentrated in seven centres, namely Hamilton, Kitchener-Waterloo, London, Mississauga, Ottawa, Toronto, and Windsor, with the largest numbers in Ottawa and Toronto.

Average contributions ranged from a low of \$1,206 in Stratford to a high of \$1,967 in Owen Sound. At the upper end of the scale, Toronto



Table 16

Contributors, Total and Average Contributions to RRSPs, by Selected Localities in Ontario, 1976

City	Contributors (Number)	Total contributions (Thousands of dollars)	Average contribution (Dollars)
Barrie	2,393	3,427	1,432
Belleville	2,136	3,459	1,619
Brampton	3,801	4,908	1,291
Brantford	5,206	7,208	1,385
Brockville	1,919	2,644	1,378
Cambridge	3,956	5,253	1,328
Chatham	3,855	5,346	1,387
Cornwall	2,730	3,901	1,429
Guelph	5,024	7,490	1,491
Hamilton	22,593	34,907	1,545
Kingston	5,693	8,830	1,551
Kitchener-Waterloo	14,842	21,843	1,472
London	18,266	30,908	1,692
Mississauga	16,341	25,871	1,583
Niagara Falls	3,776	5,721	1,515
North Bay	3,256	4,350	1,336
Orillia	1,596	2,800	1,754
Oshawa	6,576	10,205	1,552
Ottawa	36,024	60,691	1,685
Owen Sound	1,636	3,218	1,967
Pembroke	943	1,512	1,603
Peterborough	4,301	6,314	1,468
Port Colbourne	1,276	2,170	1,701
St. Catharines	9,917	17,297	1,744
St. Thomas	1,645	2,229	1,355
Sarnia	6,018	10,379	1,725
Sault Ste. Marie	5,219	7,341	1,407
Stratford	2,341	2,823	1,206
Sudbury	6,336	11,622	1,834
Thunder Bay	6,392	10,025	1,568
Timmins	1,282	2,186	1,705
Toronto	176,910	303,406	1,715
Welland	2,699	3,855	1,428
Windsor	17,092	27,631	1,617
Woodstock	1,844	2,477	1,343
Other areas	119,310	171,191	1,435
Total	525,144	846,273	1,612

Source Derived from unpublished data provided by Revenue Canada,  
Taxation.

participants on the average paid \$1,715 into RRSPs; and considerably higher, those in Sudbury averaged \$1,834. In total, there were twelve centres in Ontario where contributions were above the provincial average of \$1,612.

## SUMMARY

In summary, it would appear that the RRSP program has become an important element of the pension savings system in Ontario and embraces a significant number of residents in the province. While undoubtedly some of the funds channelled into RRSPs are placed there as tax shelter, by far the greatest proportion is intended for long-term savings to provide income support on retirement. This is corroborated not only by the Commission's study that showed most participants planned to use their savings for retirement, but also by the fact that a high proportion of funds placed in RRSPs since their inception are still being accumulated and have not been liquidated.

It is evident that RRSPs to a large extent are used as a supplement to employment pension accumulations. At least 40 per cent of Ontario participants also contribute to an employment plan, and an additional proportion may be covered by a non-contributory plan. Nevertheless, for a significant number of participants the RRSP represents the primary formal, tax-induced savings program for their old age. Among professionals, particularly, a very high proportion use this means of savings.

Participation is very responsive to the allowable contribution levels. As the limits increase, the numbers of contributors and their average contribution increase. After a rather indifferent beginning, it was only after the increased contribution levels - in 1972 and again in subsequent years - that the real flood into RRSP funds began.

Generally the average contribution tends to be well below the maximum allowable at most income levels. That indicates that in most income classes individuals have a limited amount of discretionary income that they feel free to place into this form of savings. The only exception is at the very high income levels of \$50,000 per year and over, when individuals contribute amounts closely approaching the maximum allowable. Nevertheless, by 1976 in Ontario alone, well over half a million participants contributed more than \$846 million into RRSP funds.

Generally speaking, increased participation was more pronounced by women than by men. Over the 1970s particularly, more and more women have turned to RRSPs as a form of savings. The proportionate year-to-year increases have been larger among women than for men. Nevertheless, because of the prevailing earnings differential women tended to have a lower average contribution than men.

The data show that as people approach retirement their average RRSP contributions increase. Thus, the highest average contributions were made by persons age 40 and over, with each succeeding age group contributing more than the preceding one; and in all cases their contributions were well above the provincial average (see Table 9). There were some exceptions to this general pattern among women participants. Unlike the men, women aged 60 to 64 showed a sharp drop in their average contribution, but at \$1,559 it was still well above the provincial average for women, \$1,296.

Finally, participation in RRSPs is most responsive to income. As the maximum allowable limits increased the response was greater among those with higher incomes. Consequently, the concentration of participants at the higher income levels became more pronounced over time. By 1976, over 86 per cent of those in Ontario who contributed to an RRSP had incomes of \$10,000 per year or more and nearly two-thirds had earnings ranging from \$15,000 to \$25,000 or over.

In a broader context, the RRSP experience sheds some light on individual response to a voluntary pension program. To some extent it answers the question of how and to what degree individuals would assume personal responsibility for their own systematic pension savings to create a broadly based voluntary pension.

It is evident from this study that, if left to individual choice, pension saving would be restricted largely to higher income groups. Those most in need, that is, the large numbers in the lower income categories, would not and, in most cases, could not participate simply because they have little or no surplus money available after taking care of their basic needs. Inducements to extend the participation base cannot be provided through the tax mechanism. Indeed, RRSP trends show that tax inducements merely attract high income participants and tend to increase the concentration of participation at the high income levels, almost completely bypassing those in the lower income groups. Consequently, the response rate to and the pattern of participation in RRSPs casts some doubt on whether a broad-based pension program can be provided by a voluntary system alone.



## NOTES

- (1) S.C. 1957, c. 29, s. 17.
- (2) Robert N. Schoeplein, "Taxpayer Participation Under the Registered Retirement Savings Program," Canadian Journal of Economics and Political Science, May 1966, p. 229.
- (3) Statistics Canada, Financial Institutions, Cat. 61-006, Quarterly.
- (4) Statistics Canada, Trusteed Pension Plans, Financial Statistics 1977, Cat. 74-201, Appendix B, p. 59.
- (5) Schoeplein, "Taxpayer Participation," p. 223.
- (6) The contribution level was increased to the lesser of 20 per cent of income or \$2,500 for private plan contributors and \$4,000 for others, up from \$1,500 and \$2,500 respectively.
- (7) The most common retirement age in private pension plans is 65, although in some plans it is age 60. See Statistics Canada, Pension Plans in Canada, 1976, p. 46.
- (8) Dual contributors also have a non-taxable benefit from their employer's commitment to the pension plan.

# **A Study of Private Pensions in Ontario**

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**August 29, 1979**

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## SUMMARY

Within the context of the private pension system in Ontario, three basic plan designs (two defined benefit plans, one based on career-average earnings and one on last five years' average earnings, and a money purchase plan) are examined under various economic assumptions and vesting rules, for employees with different mobility characteristics and periods of participation in the labour force. The analysis is based on probabilistic models designed to characterize the ultimate benefit to be derived by a typical employee (or by a group of similar employees) from his or her career membership in pension plans. The ensuing pension costs are also modelled and computed by an adaptation of the projected benefit costs method to lifetime pension benefits. The results obtained constitute a detailed assessment of the basic plan types in use in Ontario on the one hand, and of several vesting rules being suggested in different circles as more liberal alternatives to the current statutory minimum provision of 45 and 10 on the other hand.

### 1. INTRODUCTION

Recent discussion of the private pension system in Ontario has centred on the possible consequences of inflation, portability, and more liberal vesting rules than those brought about by the Pension Benefits Act of 1965. Under this act, all pension plans were required, as a minimum, to adopt the 45 and 10 rule which calls for full vesting after 10 years of service and attained age 45. The act, which was followed by the federal government and five other provinces, served as a major impetus to the liberalization of vesting rules throughout Canada.

Evidently, further liberalization will generally increase pension benefits and costs. On the other hand, some observers maintain that moderate improvements will not substantially reduce the proportion of retired persons with little or no pension income. It is also argued that earlier vesting might prove to be ineffective for members of contributory defined benefit plans whose own contributions may purchase most of the benefits creditable to their younger years. Discussion of these and other issues in Ontario and elsewhere remains mainly speculative, however. Both actuarial and economic analyses of the impact of pensions on income distribution at retirement, on capital accumulation, mobility of labour, and efficient allocation of labour have been mostly plan oriented (or firm oriented) without an appropriate framework for integration throughout the working lives of individuals.

In this paper, we report on the applications of a methodology, recently developed by the authors, to private pensions in Ontario. The methodology is contained in Appendix A. The overall objective is to characterize, by way of a number of statistical measures, the ultimate benefit to be derived by a group of similar employees from their career membership in pension plans, as a function of vesting rules, termination

rates, periods of employment, types of plan, and economic assumptions. A more specific objective is to provide a comprehensive assessment of the basic types of plans in use in Ontario on the one hand, and various more liberal vesting rules being suggested in different circles as replacements for the 45 and 10 rule on the other. For example, what are the relative virtues and limitations of career average plans, final earnings plans, and money purchase plans from the points of view of the three economic agents involved in the pension system: employees, employers, and governments? What are the incremental benefits to workers and costs to employers and the economy associated with a given liberalization in vesting rules? How would these costs and benefits vary with termination rates, periods of employment, and alternative ages of retirement? What are the degrees of sensitivity of different plan types and vesting rules to rates of termination and periods of employment? What are the income distributive effects of different vesting rules; are some rules more equitable than others in terms of the distribution among the retired population of the "pension wealth?" What is the impact of inflation on benefits and costs, especially in relation to different plan types?

In what follows, we provide answers to these and similar questions in the context of the private pension policy in Ontario. Section 2 is devoted to the scope of applications and data used. The results are presented and discussed in section 3, followed by conclusions in section 4.

## 2. DATA AND SCOPE

The study was undertaken in three interrelated phases: pensionable service, pension benefits, and pension costs. In each phase, a large number of scenarios were constructed and investigated with the results obtained in one phase being used for the design of the following phase. Scenarios were constructed through different plan types, rates of termination, periods of employment, vesting rules, and economic assumptions.

### Plan Types

Three different plan designs were considered: a defined benefit plan based on career-average wages and 1 per cent benefit level (abbreviated CA), a defined benefit plan based on last five years' average wages and 1 per cent benefit level (5Y), and a money purchase plan with 6 per cent rate of contribution (MP).(1)

In most cases all three plans were analyzed as contributory and non-contributory. In the former case, the employee contributions were taken as 2.5 per cent in defined benefit plans and 3 per cent in the MP plan. In contributory defined benefit plans, when one terminates before vesting, or dies before or after vesting, it was assumed that one gets the return of contribution plus interest at 3 per cent, 4 per cent, or 6 per cent depending on the economic assumptions being used. (The economic



assumptions are discussed below.) In the contributory money purchase plan, it was assumed that one receives the fund rate of interest whether terminating or dying prior to retirement. In addition, in contributory plans, when one terminates after vesting, one's benefit was computed as the greater of the accrued pension or what the accumulated contributions would buy.

### Periods of Employment

Four different entry-retirement age combinations were considered: 20-60, 20-65, 25-60, and 25-65. For entry ages 20 and 25, years of entry into the labour force were taken as 1980 and 1985, respectively. The last years of employment were, therefore, 2019 for retirement age 60 and 2024 for retirement age 65. In all cases, benefits were computed as fractions of the 2024 wages with actuarially reduced annuities for retirement age 60.

### Vesting Rules

Vesting rules considered in the study have been the following:

1. Full vesting at attained age 45 with 10 years of service (45 and 10).
2. Full vesting after 10 years of service (service 10).
3. Full vesting at attained age 40 with 5 years of service (40 and 5).
4. Full vesting after 5 years of service (service 5).
5. Full vesting when the combination of attained age and length of service equals 50 with at least 1 year of service (rule 50).
6. Full vesting when the combination of attained age and length of service equals 45 with at least 1 year of service (rule 45).
7. Full vesting after 1 year of service (service 1).

As mentioned earlier, the first rule is the current statutory minimum in Ontario. The other six represent liberalization of varying extent. They all were of interest to the Royal Commission as alternatives that have been suggested by or discussed in various circles. The last rule was incorporated in the study to serve as an additional basis of comparison.

### Termination Rates

Three different termination rate schedules were used in the study: low, medium, and high (see Appendix B).(2) These schedules are fully select in that the rates of termination depend on both attained age and duration of employment. As verified by the source, these schedules are representative of the low, medium, and high mobility sectors of the covered labour force in Ontario.

FIGURE 1. Expected Tenure at Different Ages

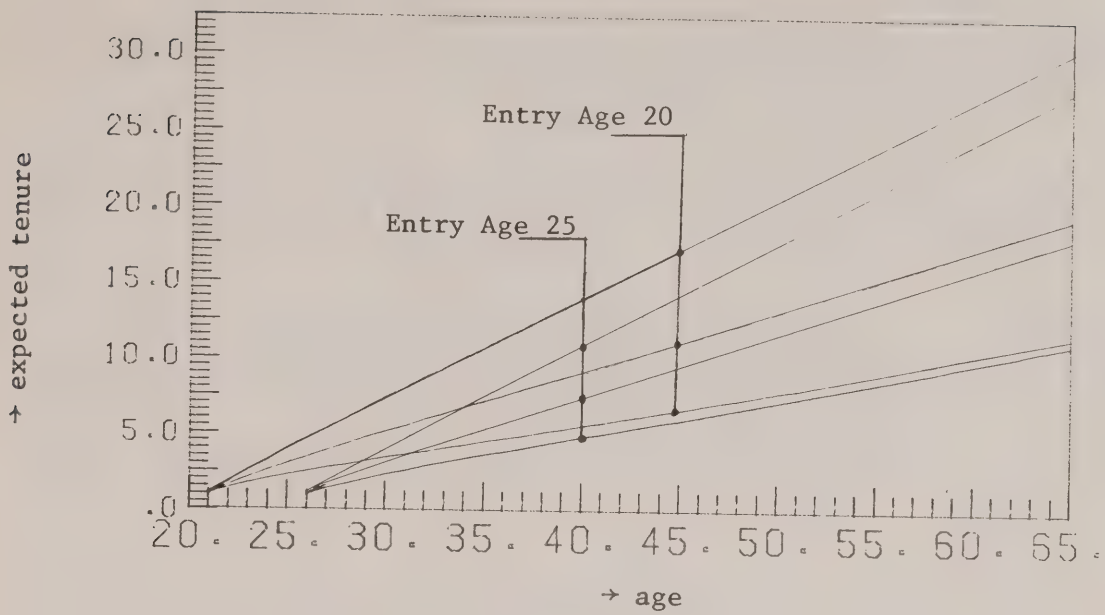
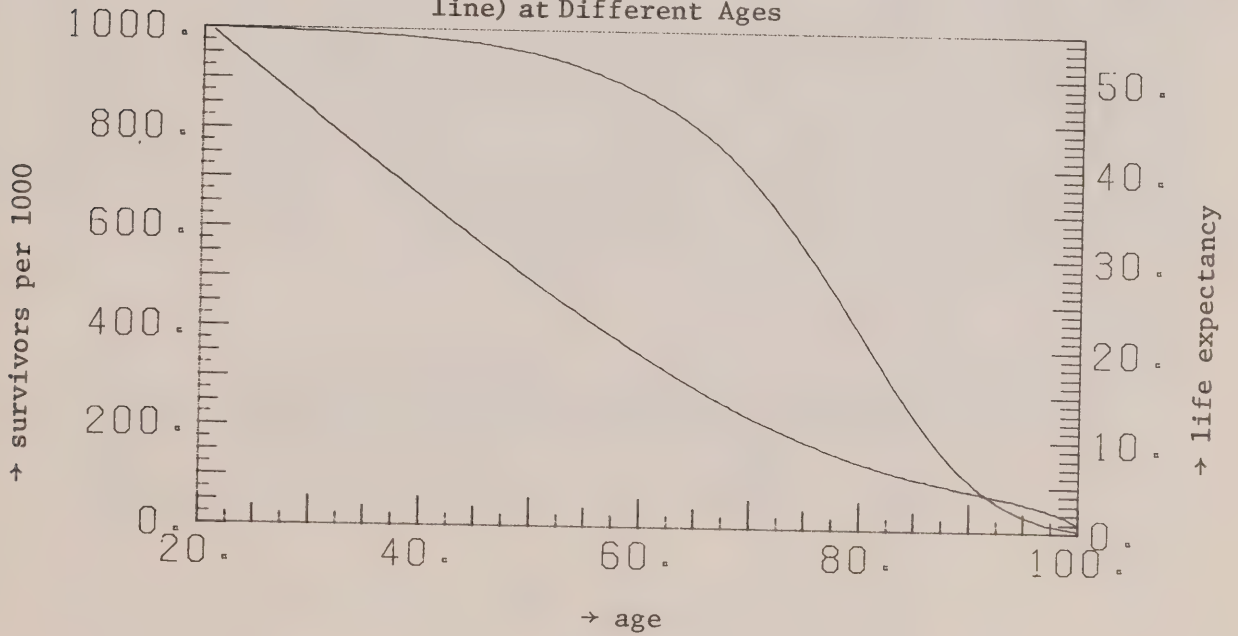


FIGURE 2. Number of Survivors per 1000 at Age 20 (top line) and Life Expectancy (bottom line) at Different Ages



For entry ages 20 and 25, expected tenure at different ages is presented in Figure 1, as computed from low, medium, and high termination rate schedules. It is seen that the expected tenure increases linearly with age in all cases. Also, as implied by the termination rate schedules used, expected numbers of job changes and expected lengths of completed service are given in Table 1.

Table 1  
Expected Number of Job Changes (Expected Length of Employment) under Different Rates of Termination

Termination rates	Periods of employment			
	20-60	20-65	25-60	25-65
Low	3.0 (13.5)	3.1 (14.7)	2.8 (12.7)	2.9 (14.0)
Medium	6.6 (6.0)	7.0 (6.5)	5.9 (6.0)	6.2 (6.4)
High	12.3 (3.3)	13.1 (3.4)	10.6 (3.3)	11.4 (3.5)

Mortality Rates

Mortality rates used in the study were based on the 1971 Group Annuity Mortality (GAM) Table developed by the Society of Actuaries as related to the actual experience of pension plan members.(3) As computed from these rates, number of survivors at different ages per 1,000 at age 20, and life expectancy at different ages are given in Figure 2. Note, in particular, that the life expectancies at ages 60 and 65 are 19.23 and 15.57, respectively. Mortality rates used in the study are also given in Appendix C.(4)

Economic Assumptions

Economic assumptions used in the study regarding the rates of inflation, return on investment, and wage growth are given in Table 2.(5) The rate of return estimates are based on the long-term government bond index (10 years and over) adjusted to Government of Canada bonds with terms of twenty or more years. Additional scenarios were subsequently investigated using .6 higher rates of return than those in Table 2.

Table 2  
Economic Assumptions

	Rate of inflation			Total rate of return			Real wage growth
	Most			Most			
	Low	probable	High	Low	probable	High	
1980-84	4.5	5.5	7.5	6.9	7.9	9.9	1.8
1985-89	4.0	5.0	7.0	6.6	7.6	9.6	2.0
1990-	3.0	4.0	6.0	5.4	6.4	8.4	2.1

Based on recent studies in Canada and the United States(6), the wage profile was taken as the following:



Age	20	25	30	35	40-65
Wage Index	.40	.65	.85	.93	1.00

Some wage functions relevant to career average and money purchase plans are presented in Figure 3. Essential to money purchase plans is the projection of wages at different ages invested until age 65, expressed as a fraction of the wage at 65. Evidently, the rate of inflation has no impact on the wage function so expressed. In contrast, wage profiles depicted in Figure 3 (which are significant in computing pension benefits and costs in career-average plans) are affected by the rate of inflation.(7)

Finally, costs at different ages of a unit annuity starting at age 60 or 65 (given survival until 60 or 65) are given in Figure 4 as a function of the rate of inflation. The input data summarized in this figure are similar to those used in establishing benefits and costs in money purchase plans. Annuity costs relevant to defined benefit plans are given in Table 3 for alternative ages of retirement under different economic assumptions, including .6 higher rates of return than those shown in Table 2.(8) All the annuity costs were computed using the adjusted GAM Table mortality rates. Costs using Male Life Table Canada rates are also included in Table 3 under the most probable economic scenario for purposes of comparison.

Table 3

Cost of a \$1 Annuity Purchased at Alternative Ages of Retirement under Different Economic Assumptions (Entries in parentheses are computed using Male Life Table Canada mortality rates.)

Rate of return	Age of retirement			
	55	60	65	70
Low	12.87	11.56	10.11	8.62
Medium	11.82 (11.39)	10.72 (10.30)	9.47 (9.14)	8.16 (7.95)
High	10.14	9.35	8.40	7.36
Low +.6	12.22	11.05	9.72	8.34
Med. +.6	11.26	10.27	9.12	7.90
High +.6	9.72	9.00	8.12	7.15

Using the above data, more than 1,000 scenarios were investigated through the methodology outlined in Appendix A. The output of the models includes various statistical measures related to qualifying service, pension benefits, and pension costs. The balance of the paper is devoted to the presentation and analysis of the results.

### 3. RESULTS

The first phase of the study was limited to career qualifying service. The objective was to investigate the impacts of vesting rules,

FIGURE 3. Wage at Different Ages as a Fraction of Wage at 65 under Different Inflationary Assumptions (bottom lines) and Wage at Different Ages Invested until 65, as a Fraction of Wage at 65 (top line).

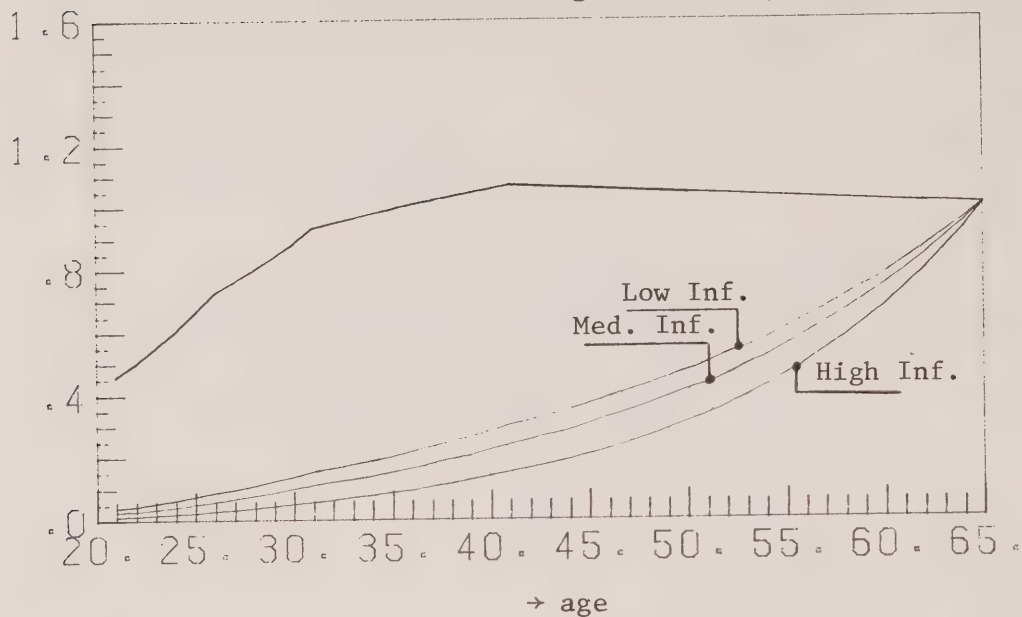
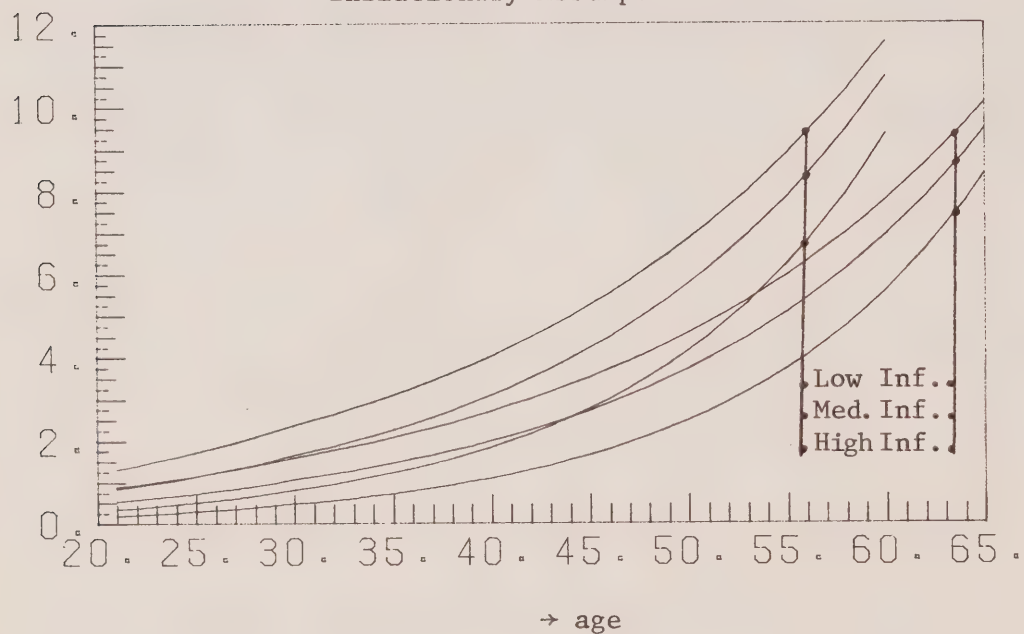


FIGURE 4. Cost at Different Ages of \$1 Annuity Starting at Age 60 (top trio) or 65 (bottom trio) under Different Inflationary Assumptions



termination rates, and periods of employment on the distribution of qualifying service. Results obtained in this phase were then used in designing the second and third phase scenarios on pension benefits and pension costs. This section is devoted to the presentation and discussion of the findings in the last two phases of the study. It begins with a comparative analysis of the expectation, variability, and distribution of pension benefits at retirement under different plans, vesting rules, termination rates, and periods of employment. The impacts of inflation and source of contributions are examined next. Finally, the expected total costs and costs to the employers of projected benefits are analyzed under different scenarios, with particular reference to the effects of plan types, vesting rules, termination rates, inflation, and source of contributions.

### Pension Benefits

Output of the benefit models included expectations, variances, Gini coefficients, distributions, and Lorenz curves, as measures characterizing pension benefits at retirement for a typical employee (or for a group of similar employees). As already noted, benefits are expressed as a fraction of the wage in the year 2024 (hereafter referred to as the base wage).

### Expected Benefits

Expected pension benefits at retirement are presented in Table 4 for some of the scenarios investigated. The top left-hand entry of 8.34, for example, means that in CA plans under the vesting rule 45 and 10, a typical worker of low mobility, who starts his or her working life at the age of 20 and plans to retire at age 60, may expect as private pension income at retirement 8.34 per cent of his or her projected 2024 wage. (If the benefit level used were 2 per cent, rather than 1 per cent, the expectation in question would have been 16.68 per cent of the base wage.) Comparatively, other things being the same, 5Y plans imply twice as high benefits (16.70 per cent of the base wage), the retirement age of 65 increases pension benefits by 50 per cent (13.61 per cent of the base wage), and under the same circumstances, a worker of high mobility could expect less than half (3.86 per cent of the base wage) the benefits due to his or her low-mobility counterpart. Such comparisons will now be expanded through vesting rules, termination rates, plan types and periods of employment. Because of the somewhat arbitrarily selected benefit levels and contribution rates, expectations under defined benefit plans are not directly comparable, however, with those under the MP plan.

First, as regards to the impact of vesting rules, an examination of Table 4 indicates that for all age groups and termination rates, and for both of the defined benefit plans, the rank of the vesting rules under consideration, from the most stringent to the most liberal, is: 45 and 10, service 10, 40 and 5, service 5, rule 50, rule 45, and service 1.



Table 4  
Expected Pension Benefits

Termination rates	Vesting rules	20-60			20-65			25-60			25-65		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	8.34	16.70	11.99	13.61	29.00	21.64	8.10	14.91	11.11	13.34	26.32	20.27
	Service 10	8.69	17.26	13.20	14.01	29.63	23.51	8.37	15.31	11.94	13.66	26.76	21.54
	40 + 5	8.96	17.48	12.95	14.44	30.01	23.13	8.76	15.71	12.10	14.22	27.34	21.79
	Service 5	9.25	17.89	14.18	14.77	30.48	25.03	9.01	16.01	12.97	14.50	27.68	23.14
	Rule 50	9.24	17.83	13.45	14.84	30.48	23.93	9.02	15.99	12.44	14.59	27.74	22.34
Medium	Rule 45	9.36	17.97	13.81	14.97	30.64	24.49	9.14	16.12	12.77	14.72	27.89	22.85
	Service 1	9.57	18.21	14.83	15.21	30.92	26.07	9.37	16.37	13.68	14.99	28.18	24.25
	45 + 10	6.20	10.91	8.38	10.52	19.36	15.66	5.98	9.93	7.79	10.26	17.92	14.74
	Service 10	6.61	11.54	9.73	10.99	20.06	17.75	6.29	10.35	8.68	10.60	18.39	16.11
	40 + 5	7.53	12.47	10.21	12.43	21.54	18.64	7.36	11.50	9.63	12.22	20.13	17.75
High	Service 5	7.94	13.00	11.84	12.90	22.15	21.16	7.68	11.88	10.75	12.59	20.56	19.47
	Rule 50	8.28	13.27	11.08	13.60	22.77	20.17	8.08	12.24	10.34	13.37	21.29	19.02
	Rule 45	8.56	13.58	11.80	13.91	23.13	21.28	8.37	12.55	11.03	13.69	21.64	20.08
	Service 1	9.06	14.12	13.87	14.48	23.74	24.48	8.85	13.06	12.76	14.25	22.22	22.74
	45 + 10	3.86	6.15	4.96	6.87	11.29	9.67	3.72	5.71	4.66	6.70	10.66	9.19
	Service 10	4.15	6.58	5.88	7.20	11.77	11.09	3.93	6.00	5.25	6.94	10.98	10.11
	40 + 5	5.56	8.07	7.12	9.47	14.18	13.38	5.44	7.63	6.81	9.33	13.56	12.89
	Service 5	5.92	8.50	8.47	9.88	14.68	15.47	5.71	7.94	7.72	9.63	13.91	14.29
	Rule 50	6.92	9.46	8.43	11.74	16.48	15.86	6.80	8.99	8.01	11.59	15.83	15.21
	Rule 45	7.35	9.91	9.38	12.22	17.00	17.32	7.22	9.44	8.93	12.07	16.33	16.62
	Service 1	8.06	10.65	12.07	13.04	17.85	21.48	7.88	10.11	11.13	12.83	17.10	20.01

This ordering is preserved with few marginal exceptions. In addition, performances of the first, second, and third pairs of rules are similar in general, but differences between pairs increase with rates of termination. Comparisons by pairs of the results under the rules 45 and 10 versus service 10, and 40 and 5 versus service 5 in defined benefit plans suggest that the age requirement, as an addition to the service requirement, would have a minor impact on expected benefits. This is in reflection of lower salary scales and higher rates of termination in younger years. It can also be seen from Table 4 that the vesting rule has a marginal effect on expected benefits and that nothing much is lost due to vesting requirements in the low termination sector. As termination rates increase, however, the vesting rule becomes a critical factor, especially in CA plans. The relative insensitivity to vesting rules in 5Y plans is evidently due to the fact that the pension benefits accumulated at different ages in these plans depend heavily on the age at termination. Thus, liberalization brings in a smaller percentage increase in benefits (as compared to CA plans) associated with creditable service at different ages.

The ordering and pairing of the vesting rules in defined benefit plans are not preserved under the MP plan. The most notable development here is the relative improvements in expectations when the age requirements are dropped from the vesting rules 45 and 10 and 40 and 5. This can be explained by noting that in MP plans benefits creditable to different years of service are independent of the age at termination (as in CA but not in 5Y plans), in addition to being comparable in value (as opposed to both defined benefit plans). Accordingly, removing the age requirement results in comparable additional benefits, making the rule service 5 the most liberal vesting provision in the low termination sector (with the exception of the rule service 1). In the medium termination sector also, the rule service 5 is either the most liberal vesting rule or a close second to rule 45. Significant improvements in the relative performance in MP plans of the rule service 10 are also evident in Table 4. With the exception that the age requirement in vesting rules is a more substantial deterrent in MP plans than in defined benefit plans, the effect of vesting rules in MP plans is similar, in general, to that in CA plans.

Next, regarding the impact of mobility, higher rates of termination would have two interrelated effects on vested benefits: reducing the length of a creditable service, and dividing a long period of creditable service in one employment into shorter periods of such service in several employments. The former effect is operational in all plans, but the latter is relevant only with respect to 5Y plans where benefits vested for a given year of service are determined by wages earned in later years in the same employment. Thus, 5Y plans are doubly affected by termination rates. In addition, since reductions in creditable service are more pronounced during younger years when termination rates are higher, MP plans would be more sensitive to mobility than CA plans. These expectations are well reflected in Table 4 where the impact of



termination rates is comparatively higher in 5Y plans than in MP plans, and in MP plans than in CA plans. Note also that the relative advantages in 5Y plans increase from high to low rates of termination and from early to normal ages of retirement. The results also show that the previously noted ranking (and pairing in defined benefit plans) of the vesting rules is also valid in relation to the influences of termination rates and plan types. In other words, more stringent provisions are comparatively more sensitive to plan designs and high rates of termination magnify this sensitivity. Consequently, liberalization of vesting rules would have an overall equalizing effect on expected benefits.

For the same age of retirement (60 or 65) the entry age 20 implies a marginal increase in expected benefits as compared to the entry age 25, due to the fact that the years of service from age 20 to age 25 either will not be creditable (due to higher mobility during younger years) or, even if they are, the relative value of the associated benefits will be small in defined benefit (especially CA) plans. On the other hand, for the same entry age (20 to 25) expected benefits related to the normal retirement age of 65 are much larger than those associated with the early retirement age of 60. For in all plans, more benefits will accrue over a longer working life, and an actuarial increase in benefits will be realized due to a shorter expected post-retirement life span. In addition, if not terminated, benefits related to the last employment will be larger in 5Y plans and the fund will accrue returns over five additional years in MP plans. It can also be seen from Table 4 that the relative increases in expected benefits resulting from a liberalization of vesting rules would be nearly the same for all age groups. Similarly, higher rates of termination do not appear to have an aggravating effect on the relative benefits of different age groups.

### Variability of Benefits

In Table 5, coefficients of variation are presented under the same scenarios as in Table 4. Coefficient of variation, defined as the ratio of standard deviation to mean, is a summary measure of the dispersion of benefits across the population of recipients. The measure is independent of the benefit level in defined benefit plans; that is, the same numerical values would have resulted if higher or lower levels of benefit (than 1 per cent) were used in computations. Similarly, the measure does not depend on the particular contribution level used in the money purchase plan. Consequently, as opposed to the means, coefficients of variation under defined benefit plans are directly comparable with those under the money purchase plan.

Analysis of the entries in Table 5 in much the same way as before reveals that the ranking and pairing of the vesting rules in relation to defined benefit and money purchase plans according to increasing means also turn out to be the order of these rules in decreasing coefficients of variation. It is evident that the vesting rules have a substantial impact on the variability of benefits for all age groups, plan types,



Table 5  
Expected Pension Benefits

Termination rates	Vesting rules	20-60			20-65			25-60			25-65		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	.26	.38	.31	.22	.35	.27	.27	.37	.31	.23	.34	.26
	Service 10	.22	.33	.20	.19	.32	.18	.24	.33	.23	.21	.32	.20
	40 + 5	.13	.30	.20	.11	.29	.17	.13	.27	.19	.11	.27	.16
	Service 5	.10	.27	.10	.09	.27	.09	.11	.25	.11	.10	.26	.10
	Rule 50	.08	.27	.16	.06	.27	.14	.08	.24	.16	.06	.25	.14
Medium	Rule 45	.06	.25	.12	.04	.26	.11	.06	.23	.12	.05	.24	.11
	Service 1	.03	.24	.03	.03	.25	.03	.03	.22	.03	.03	.23	.03
	45 + 10	.54	.66	.58	.46	.61	.50	.56	.66	.59	.48	.60	.50
	Service 10	.48	.60	.45	.43	.57	.40	.51	.61	.49	.45	.57	.43
	40 + 5	.28	.47	.34	.24	.45	.30	.28	.44	.33	.25	.42	.29
High	Service 5	.25	.43	.23	.22	.42	.21	.26	.41	.25	.23	.41	.23
	Rule 50	.15	.38	.27	.11	.37	.23	.15	.35	.26	.11	.35	.22
	Rule 45	.12	.36	.21	.09	.36	.18	.12	.32	.20	.09	.33	.17
	Service 1	.08	.32	.07	.07	.34	.07	.08	.29	.08	.07	.31	.07
	45 + 10	.93	1.06	.97	.81	.95	.84	.95	1.05	.97	.82	.94	.84
	Service 10	.85	.97	.81	.77	.90	.73	.89	.99	.86	.79	.91	.76
	40 + 5	.50	.68	.55	.44	.63	.48	.50	.65	.53	.44	.61	.47
	Service 5	.46	.63	.44	.41	.60	.39	.47	.62	.46	.42	.59	.41
	Rule 50	.24	.47	.38	.19	.44	.32	.24	.44	.37	.18	.42	.30
	Rule 45	.19	.42	.30	.16	.42	.25	.19	.39	.28	.16	.39	.24
	Service 1	.14	.37	.14	.13	.38	.13	.14	.34	.14	.13	.36	.13

and termination rates. Also, both standard deviations(9) and coefficients of variation are highest in the 5Y plan, followed by MP and CA plans. High dispersion of benefits in 5Y plans can again be explained by the fact that in these plans benefits associated with a creditable year of service may vary substantially as a function of the age at termination. Also, since the benefits creditable to earlier ages are comparatively more significant in MP plans than in CA plans, pension benefits are relatively more dispersed in the former plans.

In view of these observations, tentative conclusions reached through expected benefits regarding the "immunity" of the low termination sector to vesting rules, and the extent of superiority of 5Y plans over CA plans must be qualified. In addition, reductions in the variability of benefits in moving to more liberal vesting rules are not as significant in 5Y plans as in CA and MP plans. It is interesting to note that the age requirement in vesting rules is again more critical in MP plans than in defined benefit plans.

### Distribution of Benefits

Due to random nature of the employment termination process, pension benefit at retirement is a random variable. Therefore, measures considered so far provide only a partial characterization. To arrive at the complete picture, especially in relation to policy issues, distribution of benefits must be identified.

As computed through the underlying methodology, cumulative distributions of pension benefits at retirement for age group 25-65 are presented in Figures 5 to 13, under different vesting rules, plan types, and termination rates. For every benefit level on the horizontal axes, the proportion of recipients whose benefits will be below this level can readily be determined from these graphs. For example, we can see from Figure 10 that nearly 68 per cent of the high mobility sector will receive less than 15 (15 per cent of the base wage) in a 5Y plan under the rule service 10. This proportion reduces to about 10 per cent for the low mobility group (Figure 8). By implication, 32 per cent and 90 per cent, respectively, of the high and low mobility workers will receive more than 15. Conversely, by identifying first the percentages, one can determine the percentiles of the distributions. Again, from Figures 10 and 8, the first quartiles under service 10 with high and low rates of termination are 3.5 and 15, respectively, medians are 10 and 20, third quartiles are 17.5 and 35, and inter-quartile ranges are 14 and 20. These numbers have obvious interpretations. Evidently, benefits of the middle 50 per cent will vary from 3.5 to 17.5 with a range of 14, if termination rates are high, but from 15 to 35 with a range of 20, if termination rates are low. Note that the maximum possible benefit is 36 and 25 per cent of the low termination group will receive more than 35 under any vesting rule.

The above observations are related to the distribution of career pension benefits for a group of similar employees under a given scenario. The obvious equitable result for them would be to obtain equal pensions. Any departures from this equality would have to be a consequence of the interaction of termination rates with vesting rules and other scenario elements. An instrument for the measurement of such departures is the Lorenz curve. The Lorenz curve of a pension benefit distribution is a plot of the fraction of employees receiving less than a given level of benefit versus the relative share of this group of the total pension income (or pension wealth). Figures 5 to 13 also include the corresponding Lorenz curves. According to Figure 10, for example, in 5Y plans under the rule service 10, the bottom 40 per cent of the high termination sector will share only 3 per cent of the pension income due to this sector. In the low termination sector, the share of the bottom 40 per cent of the recipients would be 25 per cent (Figure 8).

If the correspondence between the fractions of recipients and their share of the pension wealth were to be one to one, the Lorenz curve would have been the straight-line diagonal shown in the Figures. This corresponds to an ideal (perfectly egalitarian) distribution. Departures from this ideal are measured by the Lorenz curve on a point-by-point basis, and by a summary measure called the Gini coefficient on a global basis. This index is defined, conventionally, as twice the area formed by the straight-line diagonal and the Lorenz curve (i.e., the ratio of this area to the total area of .5 below the diagonal). Consequently, as the Lorenz curve approaches the diagonal, the Gini coefficient decreases (tends to 0) signifying an egalitarian distribution. Conversely, as the Lorenz curves moves away from the diagonal, the Gini coefficient increases (approaches to 1) characterizing an equitable distribution in the sense of the disproportionately high accumulations of the pension wealth in the high pension income groups. Gini coefficients under different scenarios are presented in Table 6.

We now turn to a brief comparative discussion of the distributions, Lorenz curves, and Gini coefficients through the impacts of vesting rules, termination rates, plan types, and periods of employment.

Figures 5 and 8 show that the impact of vesting rules in defined plans is in fact marginal when termination rates are low; only the rules 45 and 10 and service 10 perform noticeably worse than others. This impact becomes substantial in medium and high termination sectors where the previously noted groupings are remarkably distinct (Figures 6, 7, 9, and 10). In general, distributions shift to the right as the vesting rule becomes more liberal, thus placing smaller fractions of recipients below a given level of benefit. These shifts are not always uniform, however. In Figure 5, for example, distributions under the rules service 10 and 40 and 5 cross at about the benefit level 14. Thus, under both rules, approximately 28 per cent will receive less than 14. However, below this benefit level, relatively higher proportions of recipients would receive smaller benefits (and above this benefit level, rela-



FIGURE 5. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in Career Average Plans with Low Termination Rates

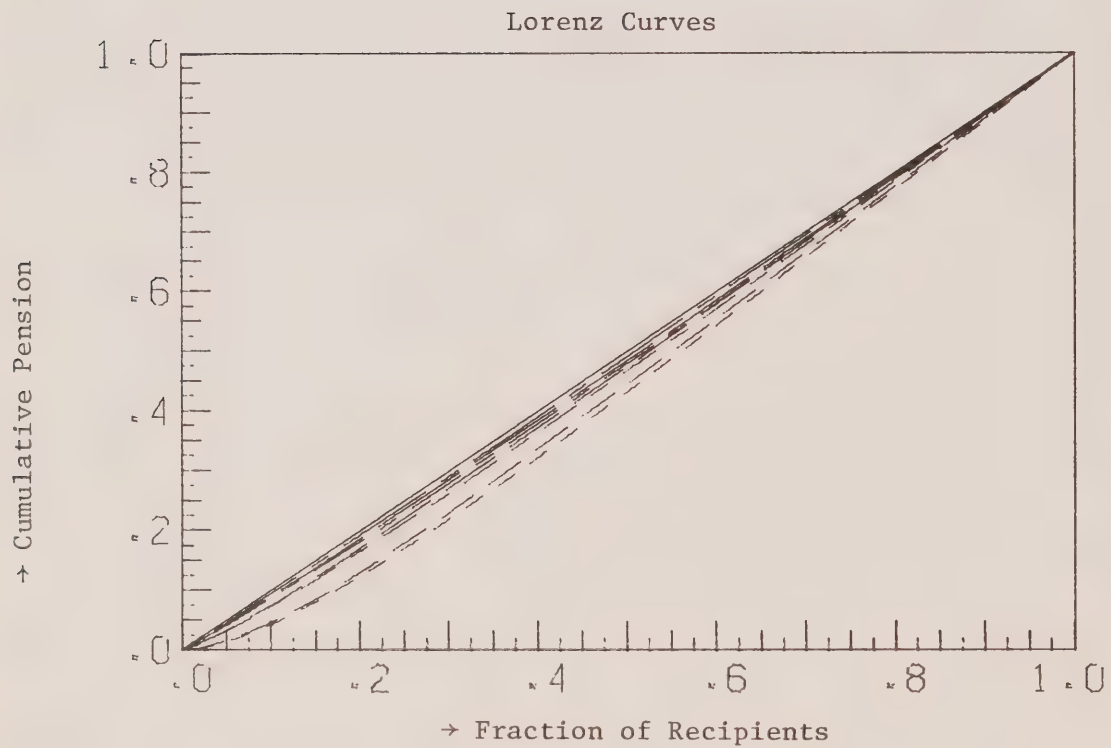
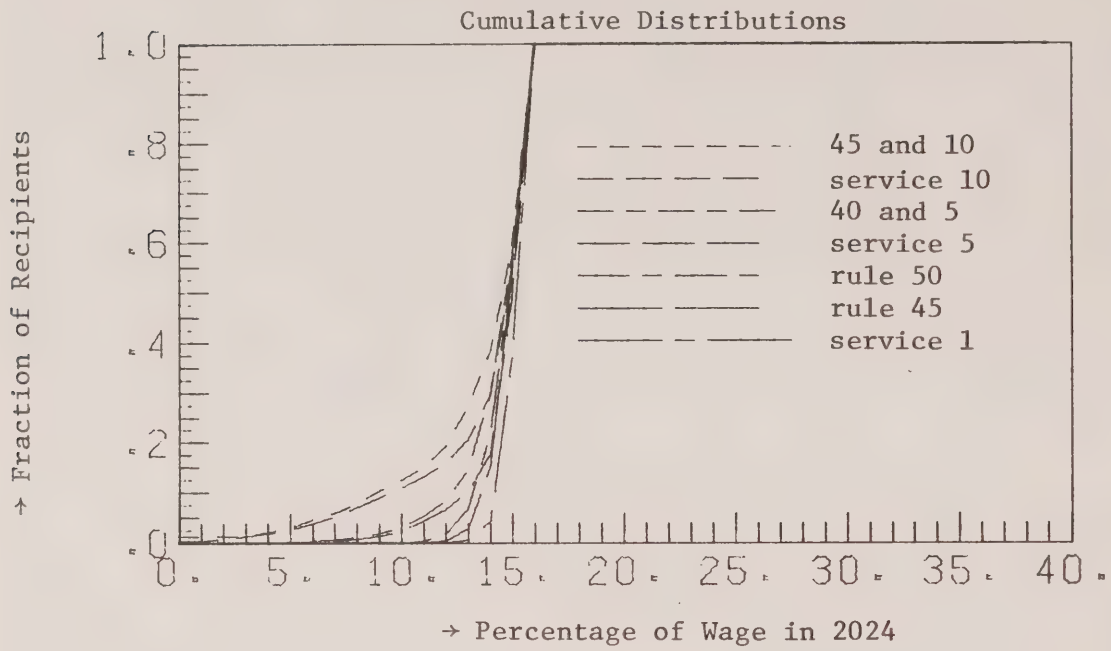


FIGURE 6. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in Career Average Plans with Medium Termination Rates

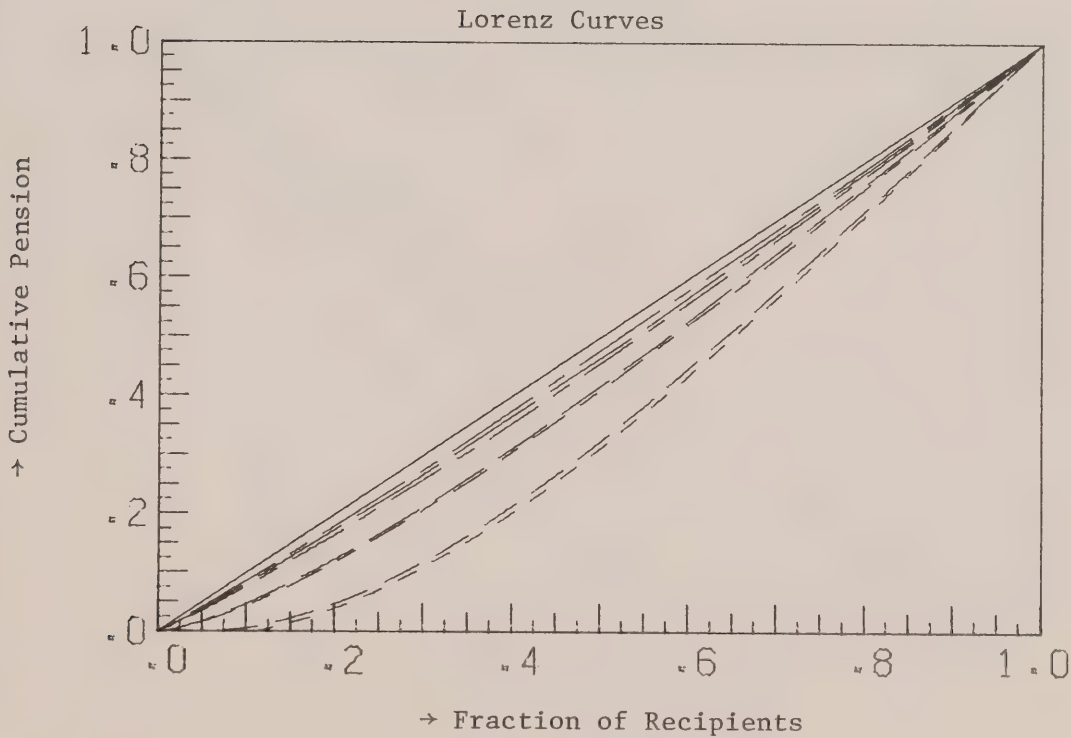
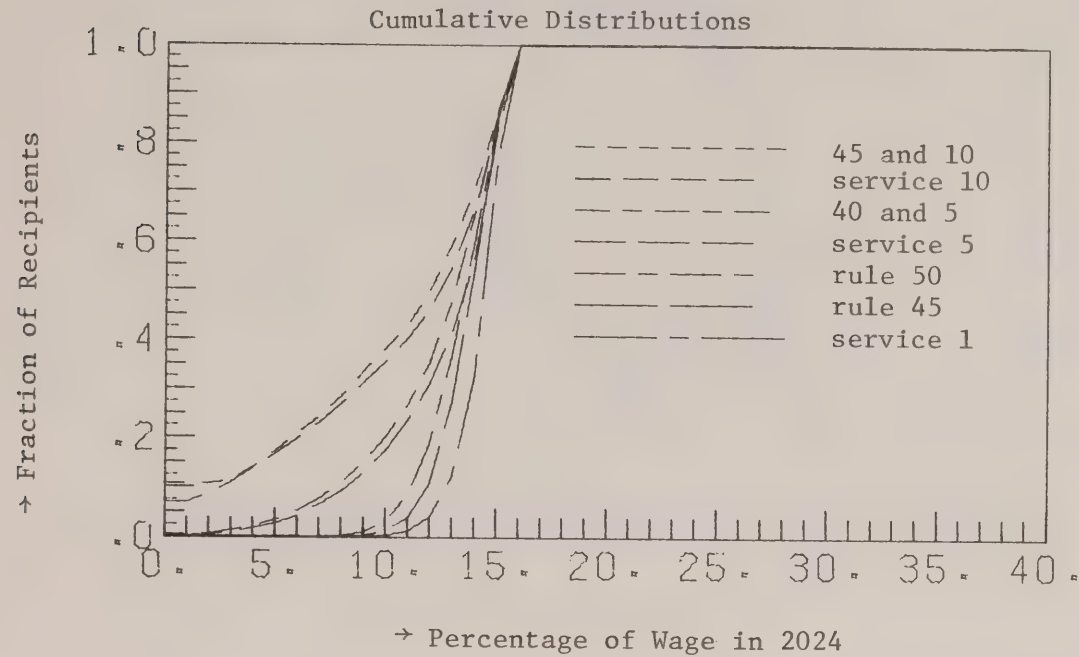


FIGURE 7. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in Career Average Plans with High Termination Rates

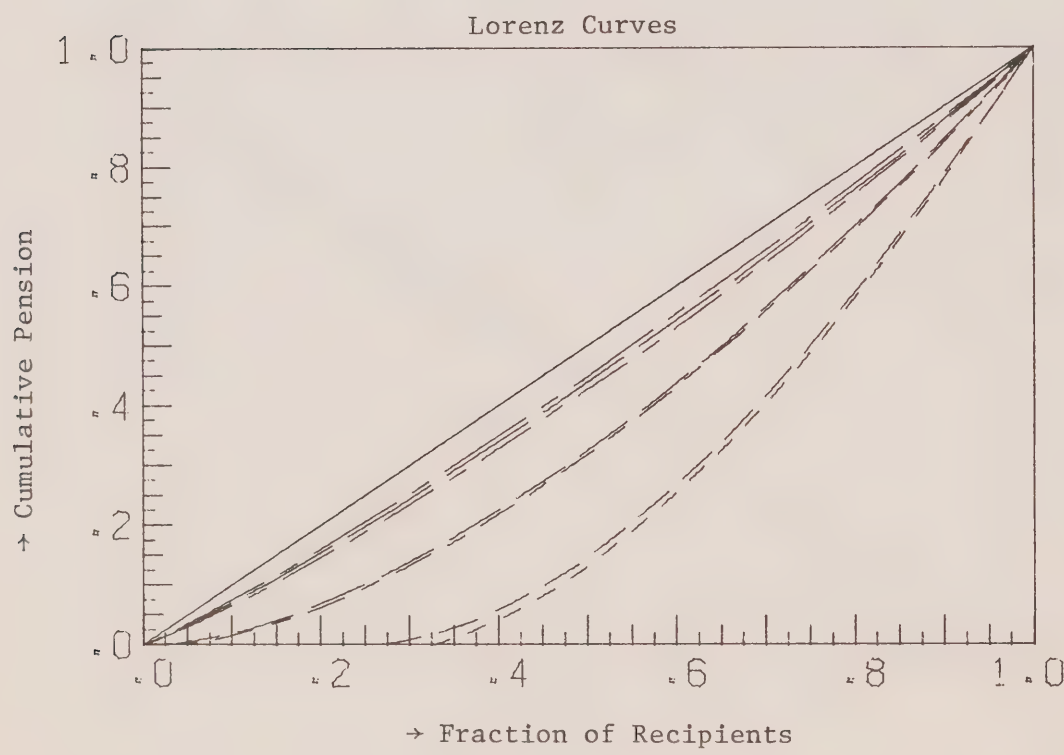
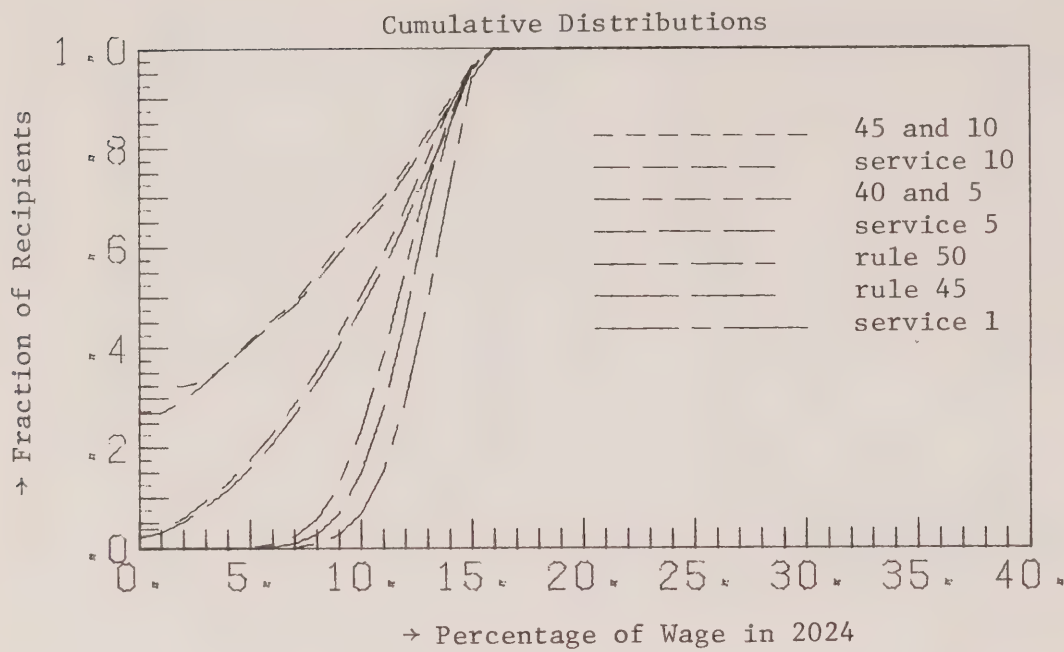




FIGURE 8. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in 5Y Plans with Low Termination Rates

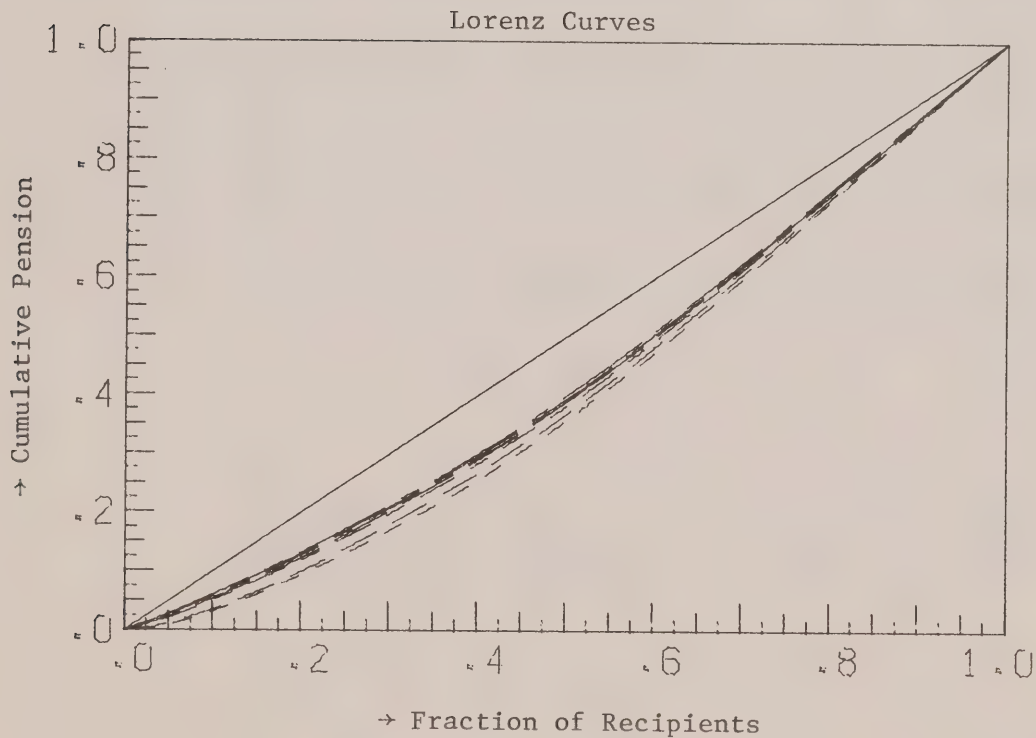
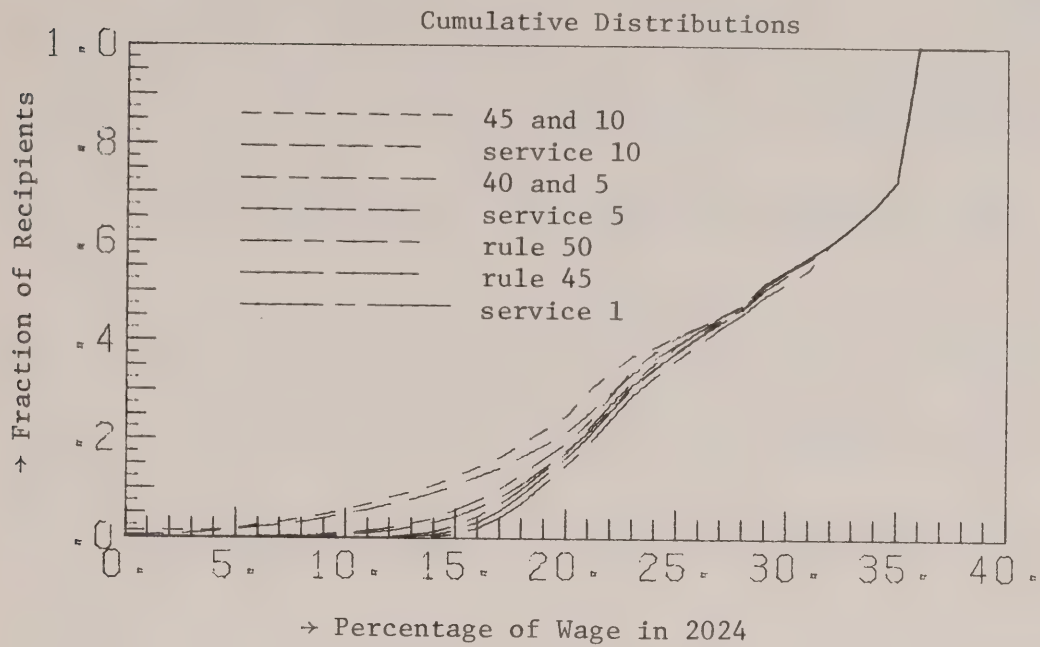


Table 6  
Gini Coefficients

Termination rates	Vesting rules	20-60			20-65			25-60			25-65		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	.12	.21	.16	.10	.20	.14	.13	.20	.16	.10	.19	.14
	Service 10	.09	.18	.10	.08	.18	.09	.11	.18	.11	.09	.17	.10
	40 + 5	.06	.17	.11	.05	.16	.09	.06	.15	.10	.05	.15	.09
	Service 5	.04	.15	.05	.04	.15	.04	.05	.14	.05	.04	.14	.05
	Rule 50	.04	.15	.08	.03	.15	.07	.04	.14	.08	.03	.14	.07
Medium	Rule 45	.03	.14	.06	.02	.15	.06	.03	.13	.06	.02	.13	.06
	Service 1	.01	.13	.01	.01	.14	.01	.02	.12	.02	.01	.13	.02
	45 + 10	.30	.38	.33	.25	.35	.29	.31	.38	.33	.26	.34	.28
	Service 10	.26	.34	.25	.23	.33	.22	.28	.35	.27	.24	.33	.24
	40 + 5	.15	.27	.20	.13	.26	.17	.15	.25	.19	.13	.24	.16
High	Service 5	.13	.24	.13	.11	.24	.12	.14	.23	.14	.12	.23	.12
	Rule 50	.08	.22	.16	.06	.21	.13	.08	.20	.15	.06	.20	.13
	Rule 45	.06	.20	.12	.05	.20	.10	.06	.18	.11	.05	.19	.10
	Service 1	.04	.18	.04	.04	.19	.04	.04	.16	.04	.04	.17	.04
	45 + 10	.52	.57	.54	.46	.52	.47	.53	.57	.54	.47	.52	.47
	Service 10	.48	.54	.46	.44	.50	.41	.50	.55	.49	.45	.51	.43
	40 + 5	.28	.38	.31	.25	.35	.27	.29	.37	.31	.25	.34	.27
	Service 5	.26	.35	.25	.23	.33	.22	.27	.35	.26	.24	.33	.23
	Rule 50	.14	.25	.22	.11	.24	.18	.13	.24	.21	.10	.22	.17
	Rule 45	.11	.23	.17	.09	.22	.15	.11	.21	.16	.09	.21	.14
	Service 1	.08	.20	.08	.07	.20	.07	.08	.18	.08	.07	.19	.07

tively lower proportions of recipients would receive higher benefits) under the rule service 10. Similar crossings can be observed in Figure 5 also with respect to the vesting rule service 5. Therefore, distributions of benefits in defined benefit plans under the service requirement rules are relatively more concentrated at both extremes of the range, while under the age-service rules relatively more of the frequency lies in mid-ranges. These tendencies, however, are not reflected by Lorenz curves and Gini coefficients strongly enough to contradict the previously suggested ranking of the vesting rules. Lorenz curves and Gini coefficients for medium and high rates of termination are in strict agreement with this ranking. When termination rates are low, Lorenz curves are hardly distinguishable under more liberal vesting rules.

The vesting rule is much more influential in the money purchase plan (Figures 11, 12, and 13), even when the rates of termination are low. Groupings observed in relation to defined benefit plans are no longer evident. Thus, even modest changes in vesting rules would create significant overall changes and shifts in distributions. This is a direct consequence of the periods of service for which benefits are forfeited due to termination before the vesting requirements are met. As pointed out before, in terms of their value at retirement, such benefits are comparable for comparable lengths of service in money purchase plans, irrespective of the specific time periods of accrual in one's working life. Their forfeiture, therefore, would induce a corresponding decrease in pension benefits due at retirement. (In defined benefit plans, benefits forfeited at younger years would have a relatively minor impact on the purchasing power of the pension income at retirement.)

The impact of termination rates is substantial in all cases, as reflected by a shift to the left in distributions and a shift to the right in Lorenz curves, from low to high rates. The former is due to the fact that as termination rates increase, the proportion of recipients below a given level of pension income would also increase. Shifts in Lorenz curves, especially under more stringent vesting rules, are consequences of the relatively larger fractions of recipients with little or no pension income in higher termination sectors. Both Lorenz curves and distributions indicate that in the high termination sector (age group 25-65), 32.5 per cent of the covered population would have no vested pension under the rule 45 and 10. This proportion drops to 27.5 per cent under the rule service 10, and to below 5 per cent under the rule 40 and 5. For the age group 20-65, (distributions are not shown) the respective proportions were 25.5 per cent, 18 per cent, and 2 per cent. In the medium termination sector for age group 25-65 (20-65) the same proportions are 9.5 per cent (7 per cent) under the rule 45 and 10, 7 per cent (3 per cent) under the rule service 10, and negligible or zero under other rules. Consequently, as a measure of the risk of terminating employees, probability of no vested pension is highly sensitive to vesting rules, termination rates, and periods of employment. These findings, which refer to the covered population only, should be reflected in view



FIGURE 9. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in 5Y plans with Medium Termination Rates

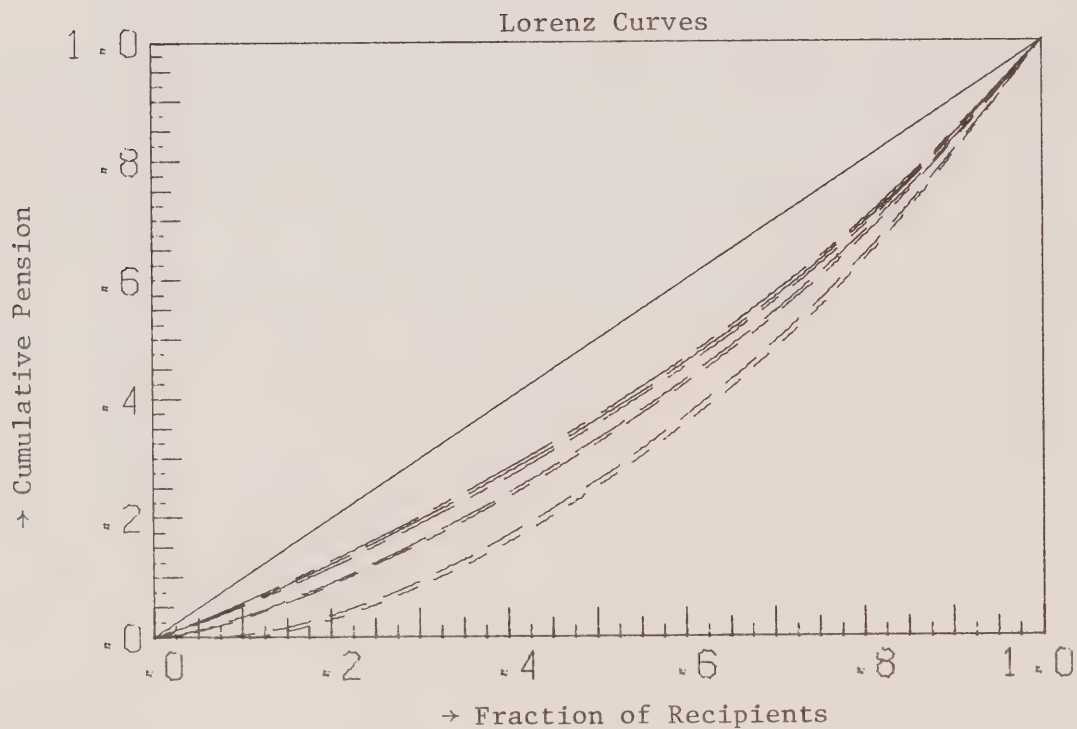
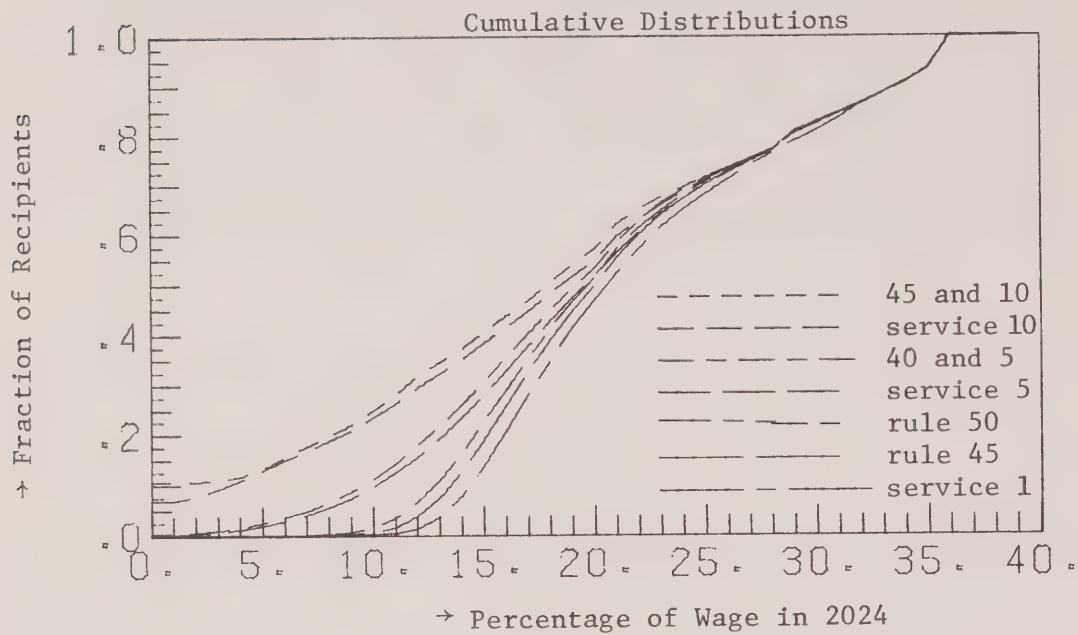


FIGURE 10. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in 5Y Plans with High Termination Rates

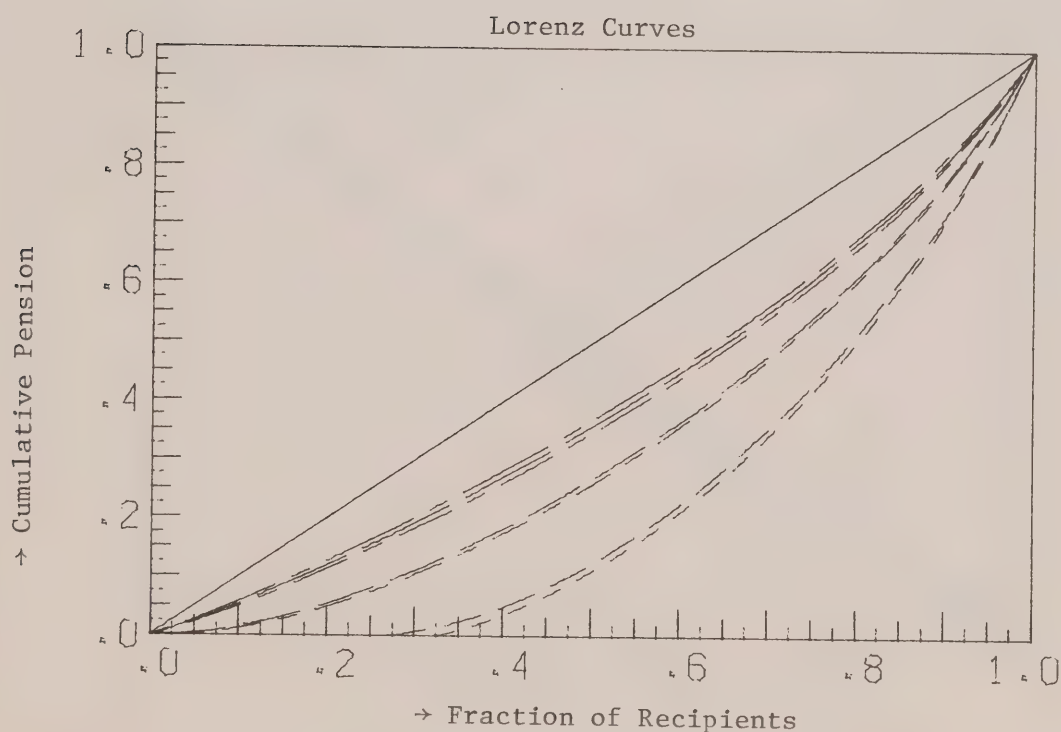
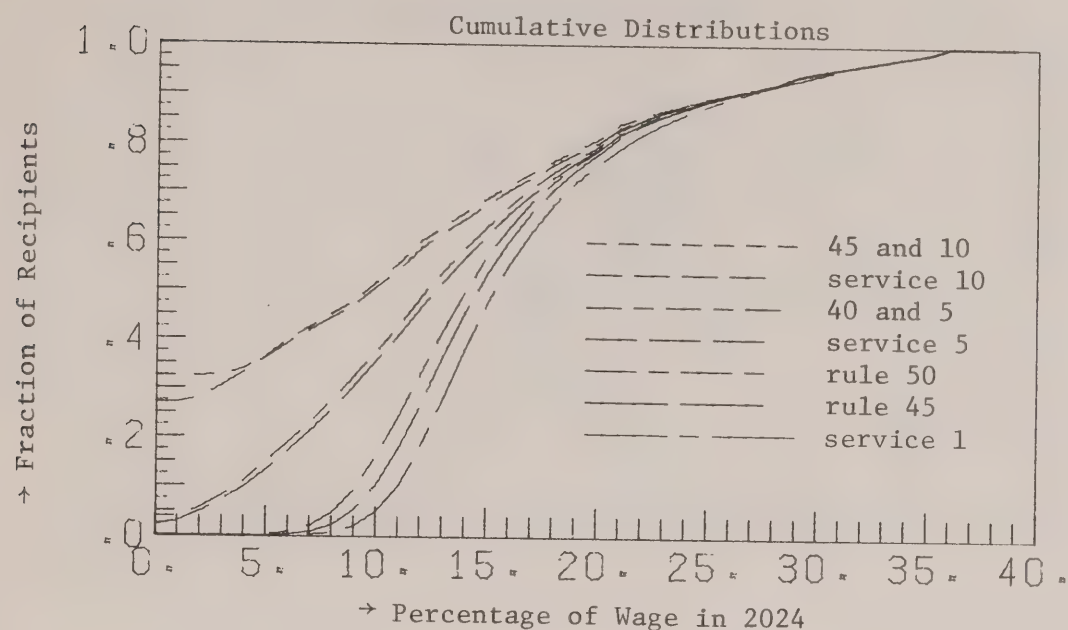


FIGURE 11. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in MP Plans with Low Termination Rates

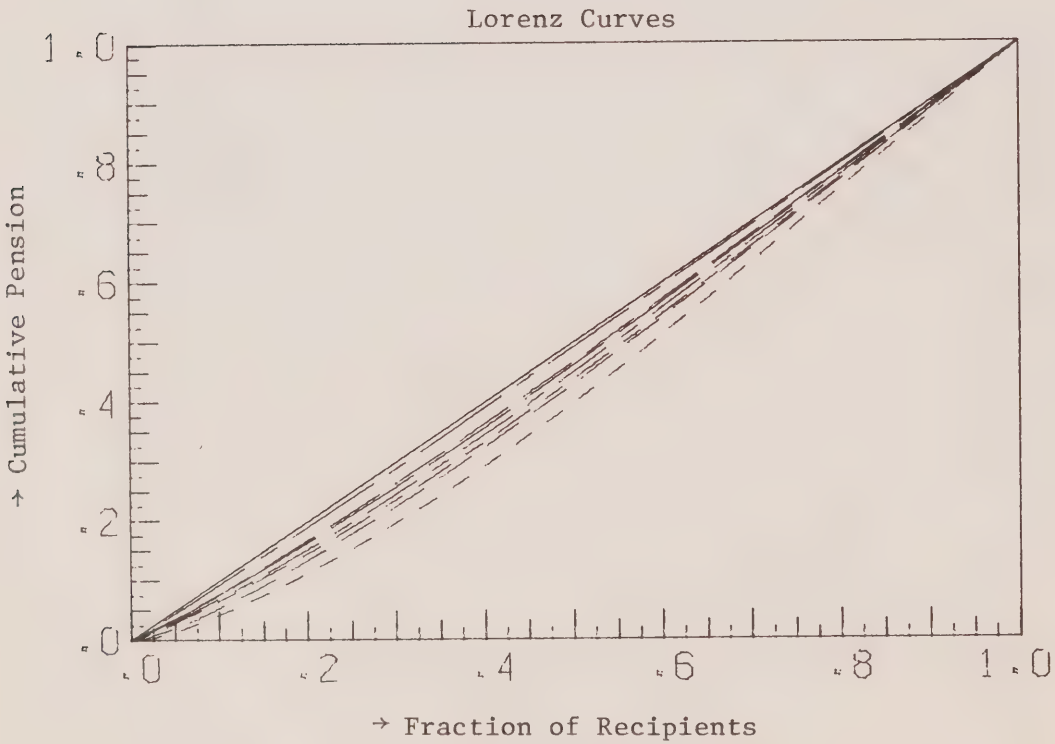
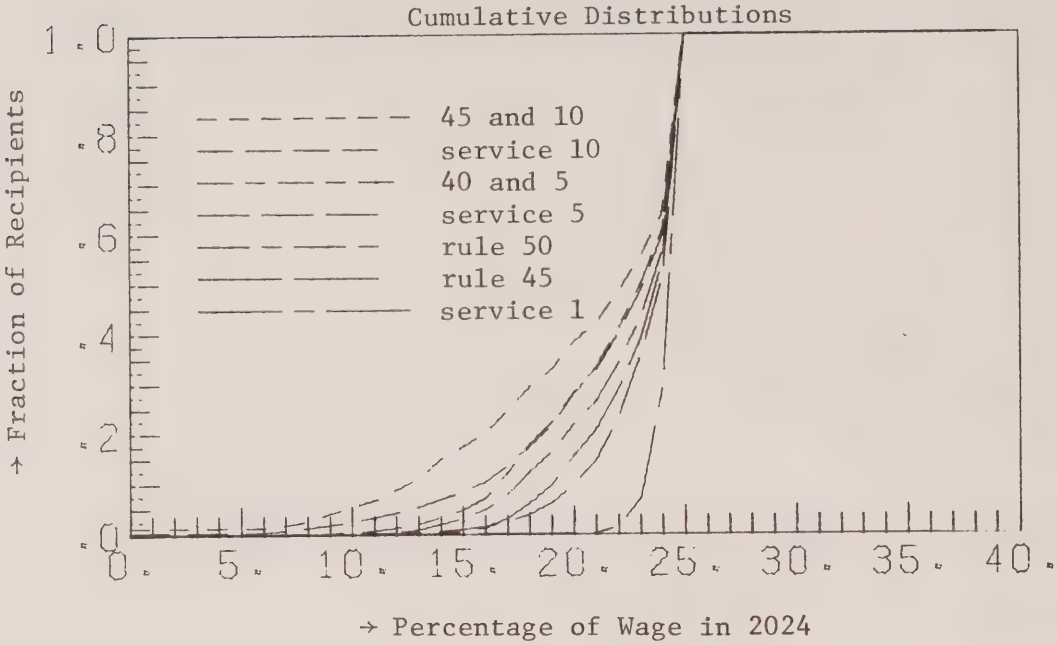




FIGURE 12. Distribution of Pension Benefits and Lorenz Curves under Different Vesting Rules in MP Plans with Medium Termination Rates

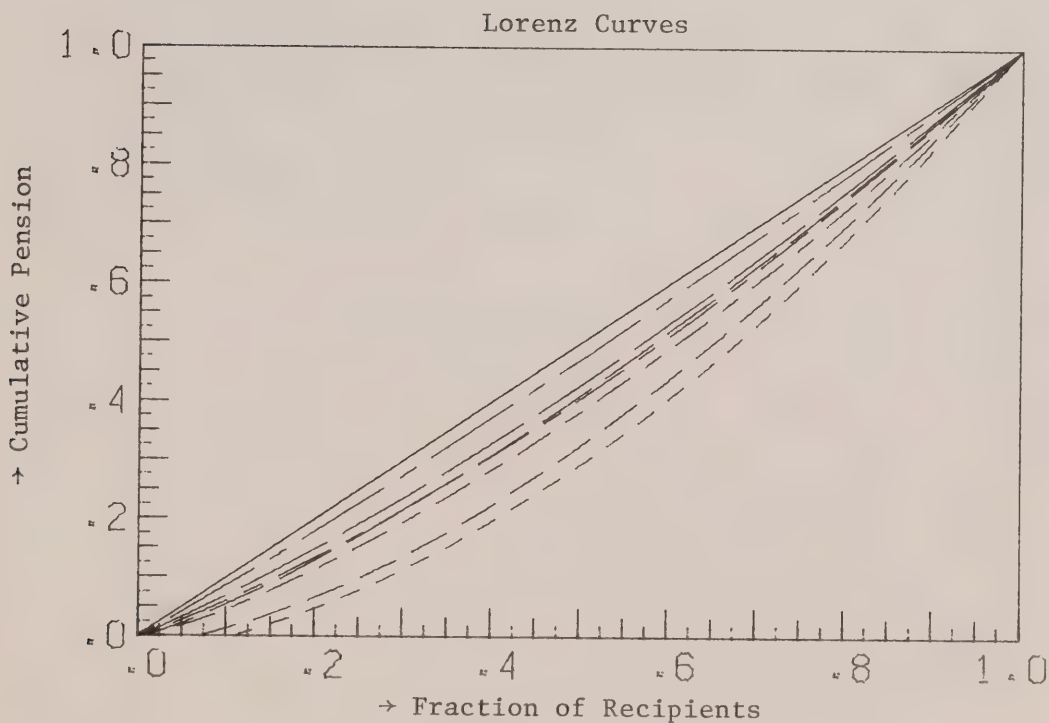
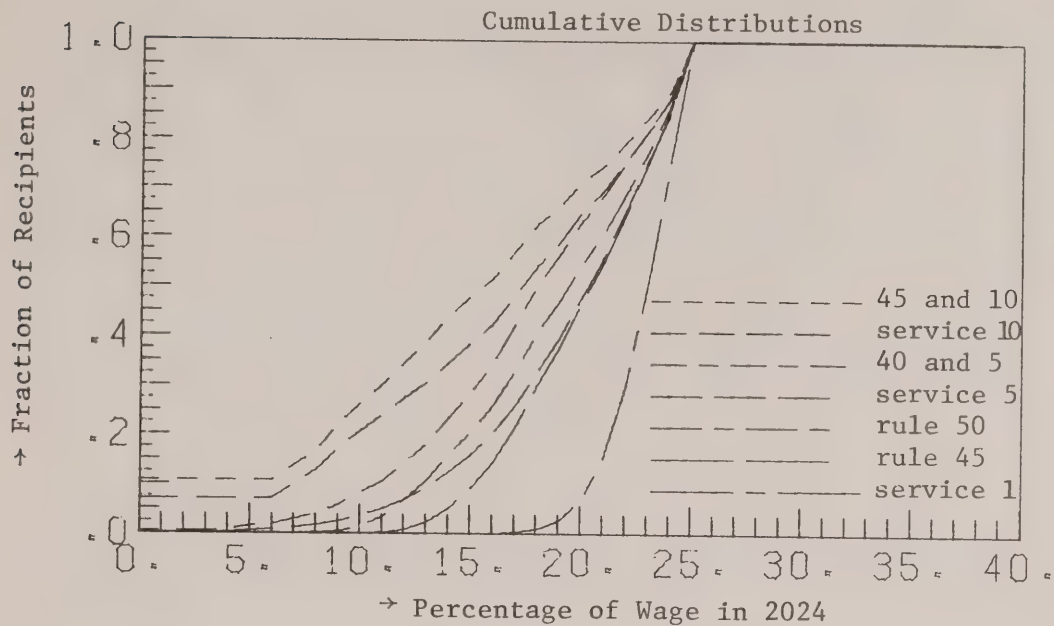
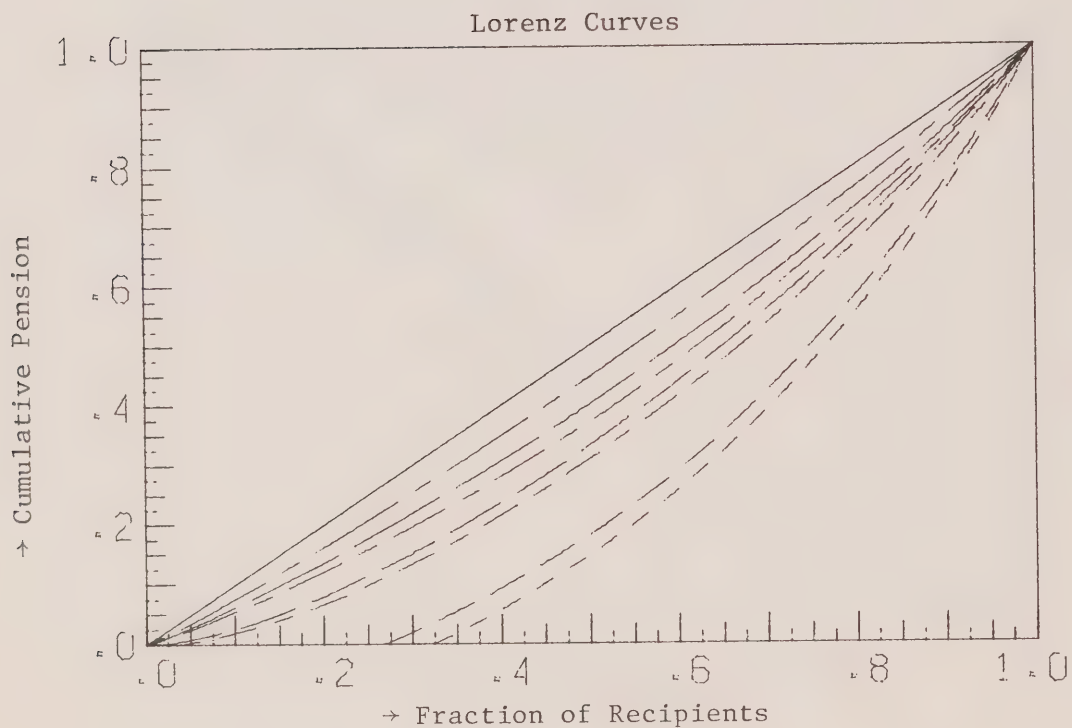
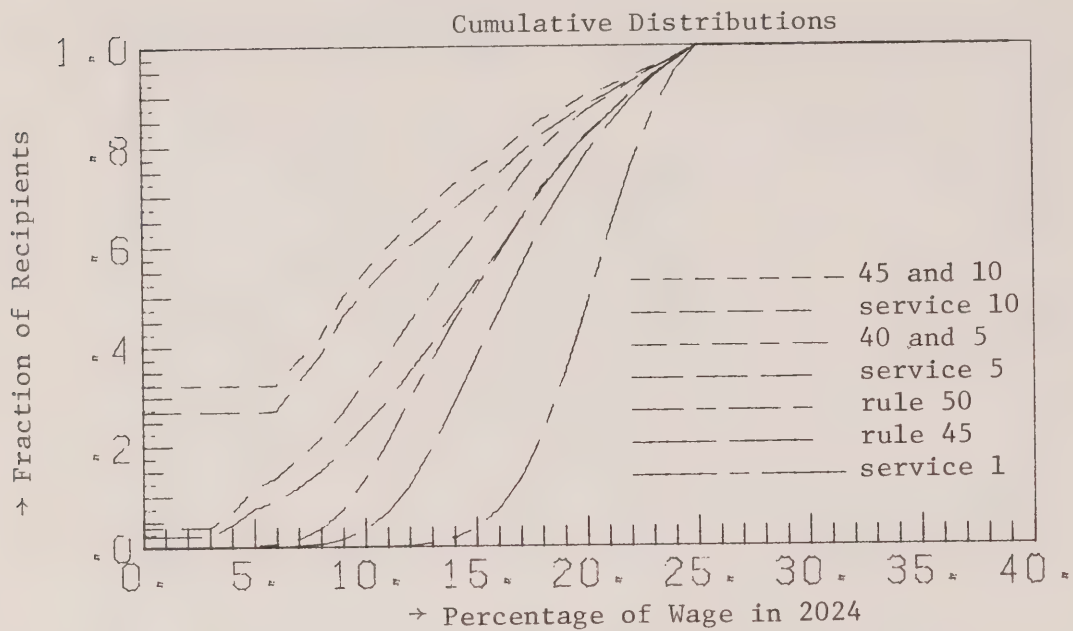


FIGURE 13. Distribution of Pension Benefits and  
Lorenz Curves under Different Vesting  
Rules in MP Plans with High Termination  
Rates



of the currently large proportion of the retired population in Ontario (and elsewhere) receiving no private pension income.

Regarding the impact of the plan type, it is seen from the distributions that the maximum possible benefit is 16 in CA plans, 36 in 5Y plans and 25 in MP plans. Narrowness of the benefit range in CA plans is coupled with the concentration of most of the frequency near the upper range. Thus, although one cannot expect too much from a CA plan, most are likely to receive near maximum benefits (or, expressed in the negative, all should fare equally badly). In contrast, the range of the distributions in 5Y plans is wide and dispersions are high. The fact remains, however, that 5Y plans are superior to CA plans in terms of implied benefits. According to Figure 8, for example, 88 per cent of the low termination sector will receive more than 16 in the 5Y plan under the rule service 10, while everyone will receive at most 16 in a CA plan even under full and immediate vesting.

Numerous other observations and comparisons can be made through the distributions and Lorenz curves. The above has been a demonstrative account of the effects of some of the more important variables on the distribution of benefits and related measures. The impacts of inflation and source of contributions will be outlined next.

#### Inflation and Source of Contributions

Results discussed so far are based on the most probable economic scenario and essentially non-contributory plans. To isolate the effects of inflation and source of contributions, expected lifetime pension benefits under different vesting rules were recomputed for age groups 25-60 and 25-65, using the low, most probable (medium), and high estimates for the rate of inflation, and contributory and non-contributory plans. (For details on economic assumptions and rates of contributory plans, see section 3.) The results are presented in Table 7.

The contributory-non-contributory distinction is irrelevant in MP plans. In defined benefit plans, increases in expected benefits from non-contributory to contributory modes are due to the computation of benefits in contributory plans as the greater of the accrued pension implied by the benefit formula or what the accumulated contribution would buy. The increases range to 17 per cent (excluding the rule service 1); are larger for higher rates of termination and inflation, larger in CA plans than in 5Y plans, and larger for the retirement age 65 than for 60. Also, in all cases, the increases are more pronounced under the vesting rule service 5. This last result is in support of the widely held belief that the contributions of the members defined benefit plans may buy much of the benefits they are entitled to during their younger years. Thus, in the absence of an age requirement for vesting, benefits creditable to earlier ages under the rule service 5 appear to have fallen short of what the contributions would buy (more so under this rule than others).



Table 7 also indicates decreases in expected benefits of 21 to 23 per cent and 29 to 33 per cent, respectively, from low to medium and from low to high rates of inflation in non-contributory CA plans for age group 25-60. Decreases in benefits are slightly smaller in contributory plans and for the retirement age 65. More stringent vesting rules and higher rates of termination do not appear to aggravate the impact of inflation. As expected, reductions in benefits due to inflation are considerably less in 5Y plans than in CA plans (6 to 10 per cent from low to medium and 18 to 26 per cent from low to high inflation for age group 25-60). And, in contrast to the defined benefit plans, expected benefits increase in MP plans together with the rate of inflation, evidently owing to the relatively cheaper annuities purchased at retirement (see Table 3). The increases are 3 per cent for age group 25-60 and 7 per cent for age group 25-65, from low to medium inflation; and, 7 per cent for age group 25-60, and 20 per cent for age group 25-65, from low to high inflation.

### Pension Costs

Pension costs were modelled through an adaptation to lifetime pension benefits of the "projected benefit cost method"; the version of this method that was used develops a normal cost that remains constant as a percentage of salary.<sup>(10)</sup> For every scenario, the model output included the total cost and the employer's cost, both expressed as a fraction of the present value of the payroll over the working life.

In Table 8, we present the total costs (employer cost plus employee cost in contributory plans) for age groups 25-60 and 25-65. As expected, costs are higher under lower rates of termination, more liberal vesting rules, contributory plans, 5Y plans (relative to CA plans), and the retirement age 60. It is also seen that the total costs in defined benefit plans decrease as the rate of inflation increases. As noted previously, although wages increase with inflation, vested benefits related to terminated employments do not in defined benefit plans. On the other hand, it is cheaper to maintain a constant level of benefit during post-retirement years when the interest rates are high.

Table 8 reveals that the relative incremental cost of liberalization would be larger in CA plans than in 5Y plans, in non-contributory than in contributory defined benefit plans, and for the retirement age 60 than for 65; these costs would also be larger in the higher termination sectors. In many if not most of the cases, however, increases in total costs are remarkably small.<sup>(11)</sup>

Employer costs are presented in Table 9. Very low entries under CA plans, especially for higher rates of inflation, should be noted. Comparative examinations of the entries in Tables 8 and 9 would also reveal the effects of other scenario variables. Such observations would be substantially similar to those already noted in relation to pension bene-

Table 7  
Expected Pension Benefits (Inflation and Source of Contributions)

		Low Inflation											
		25-60						25-65					
Termination rates	Vesting rules	Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	9.28	15.86	10.80	9.28	15.86	10.80	14.89	27.02	19.00	14.89	27.02	19.00
	Service 10	9.65	16.35	11.60	9.66	16.35	11.60	15.30	27.58	20.19	15.43	27.61	20.19
	40 + 5	10.06	16.76	11.76	10.06	16.76	11.76	15.88	28.17	20.42	15.93	28.17	20.42
	Service 5	10.38	17.16	12.61	10.44	17.19	12.61	16.25	28.62	21.69	16.55	28.79	21.69
	Rule 50	10.35	17.08	12.09	10.35	17.08	12.09	16.28	28.60	20.94	16.37	28.61	20.94
Medium	Rule 45	10.50	17.25	12.41	10.51	17.25	12.41	16.45	28.80	21.42	16.61	28.85	21.42
	Service 1	10.82	17.59	13.30	10.96	17.70	13.30	16.82	29.18	22.74	17.34	29.57	22.74
	45 + 10	6.82	10.62	7.58	6.82	10.62	7.58	11.39	18.53	13.82	11.39	18.53	13.82
	Service 10	7.22	11.15	8.43	7.23	11.15	8.43	11.84	19.13	15.09	11.97	19.16	15.09
	40 + 5	8.40	12.39	9.36	8.40	12.39	9.36	13.58	20.96	16.63	13.65	20.97	16.63
High	Service 5	8.83	12.89	10.45	8.90	12.93	10.45	14.07	21.54	18.25	14.45	21.77	18.25
	Rule 50	9.19	13.20	10.06	9.19	13.20	10.06	14.80	22.21	17.82	14.90	22.22	17.82
	Rule 45	9.55	13.59	10.72	9.56	13.59	10.72	15.21	22.65	18.81	15.41	22.74	18.81
	Service 1	10.21	14.27	12.41	10.45	14.48	12.41	15.96	23.43	21.31	16.84	24.17	21.31
	45 + 10	4.23	6.14	4.53	4.23	6.14	4.53	7.41	11.08	8.61	7.41	11.08	8.61
	Service 10	4.51	6.50	5.10	4.51	6.50	5.10	7.72	11.49	9.47	7.80	11.51	9.47
	40 + 5	6.19	8.28	6.62	6.19	8.28	6.62	10.31	14.25	12.08	10.37	14.27	12.08
	Service 5	6.55	8.69	7.51	6.60	8.72	7.51	10.72	14.72	13.39	11.03	14.92	13.39
	Rule 50	7.66	9.76	7.80	7.66	9.76	7.80	12.71	16.66	14.24	12.77	16.67	14.24
	Rule 45	8.19	10.32	8.69	8.19	10.32	8.69	13.31	17.29	15.56	13.50	17.39	15.56
	Service 1	9.07	11.21	10.83	9.36	11.48	10.83	14.32	18.32	18.74	15.37	19.26	18.74

Table 7 (continued)

		Medium inflation											
		25-60						25-65					
Termination rates	Vesting rules	Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	8.10	14.92	11.10	8.10	14.92	11.10	13.33	26.32	20.27	13.41	26.32	20.27
	Service 10	8.37	15.31	11.93	8.44	15.32	11.93	13.65	26.77	21.55	13.98	26.90	21.55
	40 + 5	8.76	15.71	12.09	8.79	15.71	12.09	14.21	27.35	21.79	14.44	27.41	21.79
	Service 5	9.01	16.01	12.96	9.18	16.11	12.96	14.49	27.69	23.14	15.10	28.07	23.14
	Rule 50	9.02	15.99	12.43	9.07	15.99	12.43	14.58	27.74	22.35	14.87	27.85	22.35
Medium	Rule 45	9.14	16.12	12.76	9.22	16.15	12.76	14.71	27.90	22.86	15.13	28.10	22.86
	Service 1	9.37	16.37	13.67	9.68	16.61	13.67	14.98	28.18	24.26	15.90	28.87	24.26
	45 + 10	5.98	9.94	7.79	5.98	9.94	7.79	10.25	17.92	14.75	10.33	17.92	14.75
	Service 10	6.29	10.36	8.67	6.35	10.37	8.67	10.60	18.40	16.11	10.95	18.54	16.11
	40 + 5	7.36	11.50	9.63	7.39	11.50	9.63	12.21	20.13	17.74	12.53	20.25	17.74
High	Service 5	7.68	11.88	10.75	7.90	12.01	10.75	12.58	20.56	19.47	13.38	21.10	19.47
	Rule 50	8.08	12.24	10.34	8.13	12.25	10.34	13.35	21.29	19.01	13.71	21.43	19.01
	Rule 45	8.37	12.55	11.03	8.47	12.58	11.03	13.68	21.64	20.07	14.27	21.98	20.07
	Service 1	8.86	13.06	12.76	9.38	13.50	12.76	14.23	22.21	22.74	15.79	23.51	22.74
	45 + 10	3.73	5.72	4.66	3.73	5.72	4.66	6.70	10.66	9.19	6.76	10.66	9.19
	Service 10	3.94	6.00	5.25	3.98	6.01	5.25	6.94	10.98	10.11	7.17	11.08	10.11
	40 + 5	5.45	7.63	6.81	5.47	7.63	6.81	9.32	13.56	12.89	9.60	13.68	12.89
	Service 5	5.72	7.94	7.72	5.89	8.05	7.72	9.63	13.91	14.29	10.30	14.39	14.29
	Rule 50	6.80	8.99	8.02	6.83	8.99	8.02	11.57	15.81	15.20	11.86	15.94	15.20
	Rule 45	7.22	9.43	8.93	7.30	9.46	8.93	12.05	16.32	16.60	12.62	16.71	16.60
	Service 1	7.89	10.11	11.13	8.49	10.66	11.13	12.80	17.08	20.00	14.62	18.71	20.00



Table 7 (concluded)

		High inflation											
Termination rates	Vesting rules	25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	6.27	13.21	11.59	6.31	13.21	11.59	10.96	25.07	22.84	11.24	25.13	22.84
	Service 10	6.43	13.45	12.45	6.65	13.55	12.45	11.14	25.35	24.27	11.86	25.75	24.27
	40 + 5	6.78	13.83	12.62	6.93	13.87	12.62	11.67	25.92	24.55	12.26	26.21	24.55
	Service 5	6.92	14.00	13.53	7.32	14.27	13.53	11.82	26.11	26.07	12.98	26.93	26.07
	Rule 50	6.99	14.05	12.98	7.18	14.12	12.98	11.98	26.25	25.18	12.69	26.64	25.18
Medium	Rule 45	7.06	14.13	13.32	7.33	14.27	13.32	12.06	26.35	25.75	12.96	26.92	25.75
	Service 1	7.19	14.27	14.27	7.80	14.75	14.27	12.20	26.50	27.33	13.82	27.77	27.33
	45 + 10	4.67	8.71	8.13	4.71	8.71	8.13	8.48	16.85	16.61	8.84	16.95	16.61
	Service 10	4.85	8.98	9.05	5.08	9.08	9.05	8.69	17.15	18.14	9.50	17.61	18.14
	40 + 5	5.74	9.96	10.05	5.94	10.04	10.05	10.10	18.71	19.99	10.96	19.21	19.99
High	Service 5	5.92	10.18	11.22	6.46	10.55	11.22	10.31	18.96	21.93	11.89	20.14	21.93
	Rule 50	6.35	10.58	10.80	6.58	10.67	10.80	11.11	19.73	21.42	12.09	20.34	21.42
	Rule 45	6.53	10.78	11.51	6.91	11.01	11.51	11.31	19.95	22.61	12.69	20.94	22.61
	Service 1	6.80	11.06	13.32	7.85	11.94	13.32	11.62	20.27	25.61	14.38	22.63	25.61
	45 + 10	2.92	4.97	4.86	2.96	4.97	4.86	5.58	9.92	10.36	5.85	10.01	10.36
	Service 10	3.05	5.15	5.48	3.20	5.22	5.48	5.72	10.13	11.38	6.29	10.45	11.38
	40 + 5	4.28	6.51	7.11	4.46	6.60	7.11	7.77	12.39	14.52	8.56	12.90	14.52
	Service 5	4.44	6.69	8.06	4.88	7.02	8.06	7.94	12.60	16.10	9.32	13.67	16.10
	Rule 50	5.42	7.66	8.37	5.61	7.74	8.37	9.76	14.39	17.12	10.69	15.03	17.12
	Rule 45	5.70	7.95	9.33	6.07	8.21	9.33	10.07	14.72	18.71	11.53	15.88	18.71
	Service 1	6.08	8.34	11.62	7.30	9.44	11.62	10.50	15.15	22.52	13.75	18.10	22.52

Table 8  
Total Pension Costs

		Low inflation											
		25-60						25-65					
Termination rates	Vesting rules	Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	3.64	6.22	4.24	4.25	6.83	5.08	3.22	5.84	4.11	3.85	6.47	5.02
	Service 10	3.78	6.42	4.55	4.28	6.91	5.23	3.31	5.96	4.37	3.87	6.50	5.14
	40 + 5	3.94	6.58	4.61	4.41	7.04	5.26	3.43	6.09	4.42	3.95	6.60	5.17
	Service 5	4.07	6.73	4.95	4.43	7.07	5.41	3.51	6.19	4.69	3.98	6.62	5.29
	Rule 50	4.06	6.70	4.74	4.47	7.11	5.32	3.52	6.18	4.53	4.00	6.65	5.22
Medium	Rule 45	4.12	6.77	4.87	4.48	7.12	5.37	3.56	6.23	4.63	4.01	6.66	5.26
	Service 1	4.24	6.90	5.22	4.50	7.15	5.52	3.64	6.31	4.92	4.04	6.68	5.39
	45 + 10	2.68	4.17	2.97	3.80	5.29	4.45	2.46	4.01	2.99	3.54	5.08	4.46
	Service 10	2.83	4.38	3.31	3.83	5.37	4.61	2.56	4.14	3.26	3.56	5.12	4.59
	40 + 5	3.29	4.86	3.67	4.14	5.70	4.78	2.94	4.53	3.60	3.79	5.37	4.75
High	Service 5	3.46	5.06	4.10	4.16	5.74	4.98	3.04	4.66	3.95	3.82	5.40	4.91
	Rule 50	3.61	5.18	3.95	4.32	5.89	4.90	3.20	4.80	3.85	3.94	5.52	4.85
	Rule 45	3.75	5.33	4.21	4.35	5.93	5.01	3.29	4.90	4.07	3.96	5.54	4.95
	Service 1	4.00	5.60	4.87	4.40	5.98	5.29	3.45	5.07	4.61	4.01	5.60	5.18
	45 + 10	1.66	2.41	1.78	3.28	4.03	3.86	1.60	2.40	1.86	3.15	3.95	3.91
	Service 10	1.77	2.55	2.00	3.31	4.09	3.97	1.67	2.49	2.05	3.17	3.97	4.00
	40 + 5	2.43	3.25	2.60	3.72	4.54	4.25	2.23	3.08	2.61	3.49	4.33	4.26
	Service 5	2.57	3.41	2.94	3.74	4.57	4.41	2.32	3.18	2.90	3.51	4.36	4.39
	Rule 50	3.00	3.83	3.06	4.07	4.90	4.43	2.75	3.60	3.08	3.78	4.62	4.45
	Rule 45	3.21	4.05	3.41	4.12	4.96	4.59	2.88	3.74	3.36	3.81	4.65	4.57
	Service 1	3.56	4.40	4.25	4.18	5.01	4.92	3.10	3.96	4.05	3.88	4.72	4.85

Table 8 (continued)

		Medium inflation											
		25-60						25-65					
Termination rates	Vesting rules	Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	3.09	5.69	4.24	3.70	6.30	5.08	2.70	5.33	4.11	3.35	5.96	5.02
	Service 10	3.20	5.84	4.55	3.71	6.34	5.23	2.77	5.42	4.37	3.37	5.98	5.14
	40 + 5	3.34	5.99	4.61	3.82	6.46	5.26	2.88	5.54	4.42	3.44	6.06	5.17
	Service 5	3.44	6.11	4.95	3.83	6.48	5.41	2.94	5.61	4.69	3.46	6.09	5.29
	Rule 50	3.44	6.10	4.74	3.87	6.51	5.32	2.95	5.62	4.53	3.47	6.10	5.22
Medium	Rule 45	3.49	6.15	4.87	3.88	6.52	5.37	2.98	5.65	4.63	3.48	6.11	5.26
	Service 1	3.58	6.25	5.22	3.90	6.54	5.52	3.03	5.71	4.92	3.51	6.14	5.39
	45 + 10	2.28	3.79	2.97	3.40	4.91	4.45	2.08	3.63	2.99	3.17	4.71	4.46
	Service 10	2.40	3.95	3.31	3.42	4.95	4.61	2.15	3.73	3.26	3.20	4.73	4.59
	40 + 5	2.81	4.39	3.67	3.66	5.23	4.78	2.48	4.08	3.60	3.38	4.94	4.75
High	Service 5	2.93	4.54	4.10	3.68	5.25	4.98	2.55	4.17	3.95	3.41	4.97	4.91
	Rule 50	3.08	4.67	3.95	3.82	5.39	4.90	2.71	4.31	3.85	3.50	5.06	4.85
	Rule 45	3.19	4.79	4.21	3.83	5.41	5.01	2.77	4.38	4.07	3.52	5.08	4.95
	Service 1	3.38	4.98	4.87	3.87	5.45	5.29	2.88	4.50	4.61	3.57	5.14	5.18
	45 + 10	1.42	2.18	1.78	3.05	3.81	3.86	1.36	2.16	1.86	2.92	3.71	3.91
	Service 10	1.50	2.29	2.00	3.06	3.83	3.97	1.41	2.23	2.05	2.93	3.73	4.00
	40 + 5	2.08	2.91	2.60	3.38	4.20	4.25	1.89	2.75	2.61	3.19	4.02	4.26
	Service 5	2.18	3.03	2.94	3.40	4.22	4.41	1.95	2.82	2.90	3.22	4.04	4.39
	Rule 50	2.59	3.43	3.06	3.67	4.50	4.44	2.34	3.20	3.08	3.42	4.25	4.45
	Rule 45	2.76	3.60	3.41	3.70	4.52	4.59	2.44	3.31	3.36	3.45	4.28	4.57
	Service 1	3.01	3.86	4.25	3.75	4.58	4.92	2.59	3.46	4.05	3.52	4.35	4.85



Table 8 (concluded)

		High inflation											
Termination rates	Vesting rules	25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	2.29	4.83	4.24	2.89	5.41	5.08	1.97	4.51	4.11	2.61	5.11	5.02
	Service 10	2.35	4.92	4.55	2.90	5.42	5.23	2.00	4.56	4.37	2.63	5.13	5.14
	40 + 5	2.48	5.06	4.61	2.97	5.51	5.26	2.10	4.66	4.42	2.68	5.19	5.17
	Service 5	2.53	5.12	4.95	2.99	5.53	5.41	2.13	4.70	4.69	2.70	5.21	5.29
	Rule 50	2.55	5.14	4.74	3.01	5.55	5.32	2.16	4.72	4.53	2.71	5.22	5.22
Medium	Rule 45	2.58	5.17	4.87	3.02	5.56	5.37	2.17	4.74	4.63	2.72	5.23	5.26
	Service 1	2.63	5.22	5.22	3.04	5.58	5.52	2.20	4.77	4.92	2.75	5.26	5.39
	45 + 10	1.71	3.18	2.97	2.81	4.27	4.45	1.53	3.03	2.99	2.62	4.08	4.46
	Service 10	1.77	3.28	3.31	2.82	4.28	4.61	1.56	3.09	3.26	2.65	4.10	4.59
	40 + 5	2.10	3.64	3.67	2.99	4.48	4.78	1.82	3.37	3.60	2.77	4.26	4.75
High	Service 5	2.17	3.72	4.10	3.01	4.51	4.98	1.85	3.41	3.95	2.80	4.29	4.91
	Rule 50	2.32	3.87	3.95	3.10	4.59	4.90	2.00	3.55	3.85	2.86	4.34	4.86
	Rule 45	2.39	3.94	4.21	3.11	4.61	5.01	2.04	3.59	4.07	2.88	4.36	4.95
	Service 1	2.49	4.04	4.87	3.15	4.65	5.29	2.09	3.65	4.61	2.93	4.42	5.18
	45 + 10	1.07	1.82	1.78	2.67	3.40	3.86	1.00	1.79	1.86	2.55	3.30	3.91
	Service 10	1.12	1.88	2.00	2.68	3.41	3.97	1.03	1.82	2.05	2.57	3.32	4.00
	40 + 5	1.57	2.38	2.60	2.90	3.68	4.25	1.40	2.23	2.61	2.75	3.53	4.26
	Service 5	1.62	2.45	2.94	2.91	3.69	4.41	1.43	2.27	2.90	2.77	3.55	4.39
	Rule 50	1.98	2.80	3.06	3.09	3.87	4.44	1.76	2.59	3.08	2.91	3.69	4.45
	Rule 45	2.08	2.91	3.41	3.11	3.89	4.59	1.81	2.65	3.37	2.93	3.72	4.57
	Service 1	2.22	3.05	4.25	3.16	3.94	4.92	1.89	2.73	4.05	3.01	3.79	4.85

Table 9  
Employer Costs

		Low inflation											
Termination rates	Vesting rules	25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	3.64	6.22	4.24	1.75	4.33	2.08	3.22	5.84	4.11	1.35	3.97	2.02
	Service 10	3.78	6.42	4.55	1.78	4.41	2.23	3.31	5.96	4.37	1.37	4.00	2.14
	40 + 5	3.94	6.58	4.61	1.91	4.54	2.26	3.43	6.09	4.42	1.45	4.10	2.17
	Service 5	4.07	6.73	4.95	1.93	4.57	2.41	3.51	6.19	4.69	1.48	4.12	2.29
	Rule 50	4.06	6.70	4.74	1.97	4.61	2.32	3.52	6.18	4.53	1.50	4.15	2.22
Medium	Rule 45	4.12	6.77	4.87	1.98	4.62	2.37	3.56	6.23	4.63	1.51	4.16	2.26
	Service 1	4.24	6.90	5.22	2.00	4.65	2.52	3.64	6.31	4.92	1.54	4.18	2.39
	45 + 10	2.68	4.17	2.97	1.30	2.79	1.45	2.46	4.01	2.99	1.04	2.58	1.46
	Service 10	2.83	4.38	3.31	1.33	2.87	1.61	2.56	4.14	3.26	1.06	2.62	1.59
	40 + 5	3.29	4.86	3.67	1.64	3.20	1.78	2.94	4.53	3.60	1.29	2.87	1.75
High	Service 5	3.46	5.06	4.10	1.66	3.24	1.98	3.04	4.66	3.95	1.32	2.90	1.91
	Rule 50	3.61	5.18	3.95	1.82	3.39	1.90	3.20	4.80	3.85	1.44	3.02	1.85
	Rule 45	3.75	5.33	4.21	1.85	3.43	2.01	3.29	4.90	4.07	1.46	3.04	1.95
	Service 1	4.00	5.60	4.87	1.90	3.48	2.29	3.45	5.07	4.61	1.51	3.10	2.18
	45 + 10	1.66	2.41	1.78	.78	1.53	.86	1.60	2.40	1.86	.65	1.45	.91
	Service 10	1.77	2.55	2.00	.81	1.59	.97	1.67	2.49	2.05	.67	1.47	1.00
	40 + 5	2.43	3.25	2.60	1.22	2.04	1.25	2.23	3.08	2.61	.99	1.83	1.26
	Service 5	2.57	3.41	2.94	1.24	2.07	1.41	2.32	3.18	2.90	1.01	1.86	1.39
	Rule 50	3.00	3.83	3.06	1.57	2.40	1.43	2.75	3.60	3.08	1.28	2.12	1.45
	Rule 45	3.21	4.05	3.41	1.62	2.46	1.59	2.88	3.74	3.36	1.31	2.15	1.57
	Service 1	3.56	4.40	4.25	1.68	2.51	1.92	3.10	3.96	4.05	1.38	2.22	1.85

Table 9 (continued)

		Medium inflation											
		25-60						25-65					
Termination rates	Vesting rules	Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	3.09	5.69	4.24	1.20	3.80	2.08	2.70	5.33	4.11	.85	3.46	2.02
	Service 10	3.20	5.84	4.55	1.21	3.84	2.23	2.77	5.42	4.37	.87	3.48	2.14
	40 + 5	3.34	5.99	4.61	1.32	3.96	2.26	2.88	5.54	4.42	.94	3.56	2.17
	Service 5	3.44	6.11	4.95	1.33	3.98	2.41	2.94	5.61	4.69	.96	3.59	2.29
	Rule 50	3.44	6.10	4.74	1.37	4.01	2.32	2.95	5.62	4.53	.97	3.60	2.22
Medium	Rule 45	3.49	6.15	4.87	1.38	4.02	2.37	2.98	5.65	4.63	.98	3.61	2.26
	Service 1	3.58	6.25	5.22	1.40	4.04	2.52	3.03	5.71	4.92	1.01	3.64	2.39
	45 + 10	2.28	3.79	2.97	.90	2.41	1.45	2.08	3.63	2.99	.67	2.21	1.46
	Service 10	2.40	3.95	3.31	.92	2.45	1.61	2.15	3.73	3.26	.70	2.23	1.59
	40 + 5	2.81	4.39	3.67	1.16	2.73	1.78	2.48	4.08	3.60	.88	2.44	1.75
High	Service 5	2.93	4.54	4.10	1.18	2.75	1.98	2.55	4.17	3.95	.91	2.47	1.91
	Rule 50	3.08	4.67	3.95	1.32	2.89	1.90	2.71	4.31	3.85	1.00	2.56	1.85
	Rule 45	3.19	4.79	4.21	1.33	2.91	2.01	2.77	4.38	4.07	1.02	2.58	1.95
	Service 1	3.38	4.98	4.87	1.37	2.95	2.29	2.88	4.50	4.61	1.07	2.64	2.18
	45 + 10	1.42	2.18	1.78	.55	1.31	.86	1.36	2.16	1.86	.42	1.21	.91
	Service 10	1.50	2.29	2.00	.56	1.33	.97	1.41	2.23	2.05	.43	1.23	1.00
	40 + 5	2.08	2.91	2.60	.88	1.70	1.25	1.89	2.75	2.61	.69	1.52	1.26
	Service 5	2.18	3.03	2.94	.90	1.72	1.41	1.95	2.82	2.90	.72	1.54	1.39
	Rule 50	2.59	3.43	3.06	1.17	2.00	1.44	2.34	3.20	3.08	.92	1.75	1.45
	Rule 45	2.76	3.60	3.41	1.20	2.02	1.59	2.44	3.31	3.36	.95	1.78	1.57
	Service 1	3.01	3.86	4.25	1.25	2.08	1.92	2.59	3.46	4.05	1.02	1.85	1.85



Table 9 (concluded)

		High inflation											
Termination rates	Vesting rules	25-60						25-65					
		Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	2.29	4.83	4.24	.39	2.91	2.08	1.97	4.51	4.11	.11	2.61	2.02
	Service 10	2.35	4.92	4.55	.40	2.92	2.23	2.00	4.56	4.37	.13	2.63	2.14
	40 + 5	2.48	5.06	4.61	.47	3.01	2.26	2.10	4.66	4.42	.18	2.69	2.17
	Service 5	2.53	5.12	4.95	.49	3.03	2.41	2.13	4.70	4.69	.20	2.71	2.29
	Rule 50	2.55	5.14	4.74	.51	3.05	2.32	2.16	4.72	4.53	.21	2.72	2.22
	Rule 45	2.58	5.17	4.87	.52	3.06	2.37	2.17	4.74	4.63	.22	2.73	2.26
Medium	Service 1	2.63	5.22	5.22	.54	3.08	2.52	2.20	4.77	4.92	.25	2.76	2.39
	45 + 10	1.71	3.18	2.97	.31	1.77	1.45	1.53	3.03	2.99	.12	1.58	1.46
	Service 10	1.77	3.28	3.31	.32	1.78	1.61	1.56	3.09	3.26	.15	1.60	1.59
	40 + 5	2.10	3.64	3.67	.49	1.98	1.78	1.82	3.37	3.60	.27	1.76	1.75
	Service 5	2.17	3.72	4.10	.51	2.01	1.98	1.85	3.41	3.95	.30	1.79	1.91
	Rule 50	2.32	3.87	3.95	.60	2.09	1.90	2.00	3.55	3.85	.36	1.84	1.86
High	Rule 45	2.39	3.94	4.21	.61	2.11	2.01	2.04	3.59	4.07	.38	1.86	1.95
	Service 1	2.49	4.04	4.87	.65	2.15	2.29	2.09	3.65	4.61	.43	1.92	2.18
	45 + 10	1.07	1.82	1.78	.17	.90	.86	1.00	1.79	1.86	.05	.80	.91
	Service 10	1.12	1.88	2.00	.18	.91	.97	1.03	1.82	2.05	.07	.82	1.00
	40 + 5	1.57	2.38	2.60	.40	1.18	1.25	1.40	2.23	2.61	.25	1.03	1.26
	Service 5	1.62	2.45	2.94	.41	1.19	1.41	1.43	2.27	2.90	.27	1.05	1.39
High	Rule 50	1.98	2.80	3.06	.59	1.37	1.44	1.76	2.59	3.08	.41	1.19	1.45
	Rule 45	2.08	2.91	3.41	.61	1.39	1.59	1.81	2.65	3.37	.43	1.22	1.57
	Service 1	2.22	3.05	4.25	.66	1.44	1.92	1.89	2.73	4.05	.51	1.29	1.85

Table 10  
Employer Costs with .6 Higher Rates of Return

Termination rates		Low inflation									
		25-60					25-65				
		Non-contributory					Non-contributory				
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA
Low	45 + 10	3.18	5.43	4.19	1.28	3.54	2.06	2.76	5.02	4.05	.89
	Service 10	3.30	5.60	4.52	1.30	3.59	2.22	2.84	5.12	4.33	.91
	40 + 5	3.44	5.74	4.57	1.41	3.70	2.23	2.95	5.23	4.36	.98
	Service 5	3.56	5.87	4.92	1.43	3.73	2.40	3.02	5.31	4.66	1.00
	Rule 50	3.54	5.85	4.70	1.46	3.76	2.29	3.02	5.31	4.48	1.02
Medium	Rule 45	3.59	5.91	4.83	1.47	3.77	2.35	3.05	5.35	4.59	1.03
	Service 1	3.70	6.02	5.20	1.49	3.79	2.52	3.12	5.42	4.89	1.06
	45 + 10	2.34	3.64	2.92	.95	2.25	1.43	2.11	3.44	2.93	.69
	Service 10	2.47	3.82	3.27	.97	2.31	1.60	2.20	3.55	3.22	.71
	40 + 5	2.88	4.24	3.61	1.22	2.59	1.75	2.52	3.89	3.53	.89
High	Service 5	3.02	4.41	4.07	1.25	2.62	1.96	2.61	4.00	3.90	.93
	Rule 50	3.15	4.52	3.87	1.38	2.75	1.86	2.75	4.12	3.77	1.01
	Rule 45	3.27	4.65	4.14	1.40	2.77	1.98	2.82	4.20	4.00	1.03
	Service 1	3.49	4.88	4.85	1.45	2.81	2.28	2.96	4.35	4.58	1.10
	45 + 10	1.45	2.10	1.74	.56	1.22	.84	1.37	2.06	1.81	.41
	Service 10	1.54	2.22	1.97	.58	1.25	.96	1.43	2.13	2.01	.43
	40 + 5	2.12	2.84	2.54	.91	1.63	1.22	1.91	2.65	2.54	.69
	Service 5	2.24	2.98	2.91	.93	1.65	1.39	1.99	2.73	2.85	.72
	Rule 50	2.62	3.34	2.97	1.21	1.93	1.40	2.36	3.09	2.98	.93
	Rule 45	2.80	3.53	3.33	1.25	1.96	1.55	2.47	3.21	3.28	.95
	Service 1	3.10	3.84	4.22	1.30	2.02	1.91	2.66	3.40	4.02	1.03
	45 + 10	1.45	2.10	1.74	.56	1.22	.84	1.37	2.06	1.81	.41
	Service 10	1.54	2.22	1.97	.58	1.25	.96	1.43	2.13	2.01	.43
	40 + 5	2.12	2.84	2.54	.91	1.63	1.22	1.91	2.65	2.54	.69
	Service 5	2.24	2.98	2.91	.93	1.65	1.39	1.99	2.73	2.85	.72
	Rule 50	2.62	3.34	2.97	1.21	1.93	1.40	2.36	3.09	2.98	.93
	Rule 45	2.80	3.53	3.33	1.25	1.96	1.55	2.47	3.21	3.28	.95
	Service 1	3.10	3.84	4.22	1.30	2.02	1.91	2.66	3.40	4.02	1.03
	45 + 10	1.45	2.10	1.74	.56	1.22	.84	1.37	2.06	1.81	.41
	Service 10	1.54	2.22	1.97	.58	1.25	.96	1.43	2.13	2.01	.43
	40 + 5	2.12	2.84	2.54	.91	1.63	1.22	1.91	2.65	2.54	.69
	Service 5	2.24	2.98	2.91	.93	1.65	1.39	1.99	2.73	2.85	.72
	Rule 50	2.62	3.34	2.97	1.21	1.93	1.40	2.36	3.09	2.98	.93
	Rule 45	2.80	3.53	3.33	1.25	1.96	1.55	2.47	3.21	3.28	.95
	Service 1	3.10	3.84	4.22	1.30	2.02	1.91	2.66	3.40	4.02	1.03

Table 10 (continued)

		Medium inflation											
		25-60						25-65					
Termination rates	Vesting rules	Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	2.70	4.98	4.19	.81	3.09	2.06	2.33	4.59	4.06	.47	2.72	1.99
	Service 10	2.80	5.11	4.52	.83	3.11	2.22	2.38	4.67	4.33	.49	2.74	2.13
	40 + 5	2.93	5.25	4.57	.91	3.21	2.23	2.48	4.77	4.36	.55	2.80	2.14
	Service 5	3.01	5.35	4.92	.93	3.23	2.40	2.53	4.83	4.66	.57	2.83	2.28
	Rule 50	3.01	5.34	4.70	.96	3.26	2.29	2.54	4.84	4.48	.58	2.84	2.19
Medium	Rule 45	3.05	5.39	4.83	.96	3.27	2.35	2.57	4.87	4.59	.59	2.85	2.24
	Service 1	3.13	5.47	5.20	.98	3.29	2.52	2.61	4.92	4.90	.62	2.88	2.37
	45 + 10	2.00	3.32	2.92	.62	1.94	1.43	1.79	3.13	2.93	.39	1.70	1.43
	Service 10	2.10	3.46	3.27	.63	1.96	1.60	1.85	3.21	3.22	.41	1.72	1.57
	40 + 5	2.46	3.84	3.61	.83	2.19	1.75	2.13	3.51	3.53	.56	1.89	1.71
High	Service 5	2.57	3.97	4.07	.85	2.22	1.96	2.20	3.59	3.90	.59	1.93	1.89
	Rule 50	2.70	4.09	3.87	.96	2.32	1.86	2.33	3.72	3.77	.66	1.99	1.82
	Rule 45	2.80	4.19	4.14	.98	2.34	1.98	2.39	3.78	4.00	.68	2.01	1.92
	Service 1	2.96	4.36	4.85	1.02	2.38	2.28	2.48	3.88	4.58	.74	2.07	2.16
	45 + 10	1.24	1.91	1.74	.36	1.02	.84	1.17	1.86	1.81	.23	.90	.88
	Service 10	1.31	2.01	1.97	.37	1.04	.96	1.21	1.92	2.01	.24	.91	.98
	40 + 5	1.82	2.55	2.54	.64	1.35	1.22	1.63	2.37	2.54	.45	1.16	1.23
	Service 5	1.91	2.65	2.91	.66	1.37	1.39	1.68	2.43	2.85	.48	1.18	1.37
	Rule 50	2.27	3.00	2.98	.88	1.59	1.40	2.02	2.76	2.99	.64	1.35	1.40
	Rule 45	2.41	3.15	3.33	.90	1.61	1.55	2.10	2.85	3.28	.67	1.37	1.53
	Service 1	2.63	3.38	4.22	.96	1.67	1.91	2.23	2.98	4.02	.75	1.45	1.83

Table 10 (concluded)

		High inflation											
		25-60						25-65					
Termination rates	Vesting rules	Non-contributory			Contributory			Non-contributory			Contributory		
		CA	5Y	MP	CA	5Y	MP	CA	5Y	MP	CA	5Y	MP
Low	45 + 10	2.02	4.25	4.19	.12	2.33	2.06	1.71	3.91	4.06	-.15	2.01	1.99
	Service 10	2.07	4.33	4.52	.13	2.34	2.22	1.74	3.95	4.33	-.13	2.03	2.13
	40 + 5	2.18	4.45	4.57	.19	2.42	2.24	1.82	4.04	4.37	-.09	2.08	2.14
	Service 5	2.23	4.51	4.92	.21	2.44	2.40	1.84	4.07	4.66	-.06	2.10	2.28
	Rule 50	2.25	4.52	4.70	.22	2.45	2.29	1.87	4.09	4.48	-.06	2.11	2.19
Medium	Rule 45	2.27	4.55	4.83	.23	2.46	2.36	1.88	4.11	4.59	-.05	2.11	2.24
	Service 1	2.31	4.59	5.20	.25	2.48	2.52	1.90	4.13	4.90	-.02	2.15	2.37
	45 + 10	1.50	2.80	2.92	.11	1.39	1.43	1.32	2.63	2.93	-.08	1.18	1.43
	Service 10	1.56	2.89	3.27	.12	1.40	1.60	1.35	2.67	3.22	-.05	1.20	1.57
	40 + 5	1.85	3.21	3.61	.26	1.57	1.75	1.58	2.92	3.53	.05	1.33	1.72
High	Service 5	1.91	3.28	4.07	.28	1.59	1.97	1.61	2.96	3.90	.08	1.36	1.89
	Rule 50	2.04	3.41	3.88	.35	1.66	1.86	1.73	3.08	3.78	.12	1.40	1.82
	Rule 45	2.10	3.47	4.15	.37	1.68	1.98	1.76	3.11	4.00	.14	1.42	1.92
	Service 1	2.19	3.56	4.85	.41	1.72	2.28	1.81	3.16	4.58	.20	1.48	2.16
	45 + 10	.94	1.60	1.74	.04	.68	.85	.87	1.55	1.81	-.08	.56	.88
	Service 10	.98	1.66	1.97	.05	.69	.96	.89	1.58	2.01	-.07	.57	.98
	40 + 5	1.38	2.10	2.54	.23	.91	1.22	1.21	1.93	2.55	.08	.75	1.23
	Service 5	1.43	2.15	2.91	.25	.93	1.39	1.24	1.96	2.85	.11	.78	1.37
	Rule 50	1.75	2.47	2.98	.40	1.08	1.40	1.52	2.24	2.99	.22	.89	1.40
	Rule 45	1.84	2.56	3.33	.41	1.09	1.55	1.57	2.29	3.28	.24	.91	1.53
	Service 1	1.96	2.69	4.22	.47	1.15	1.91	1.64	2.36	4.02	.32	.99	1.83



fits. Employer costs are also presented in Table 10 using .6 higher rates of return than before. Evidently, higher rates of return on investment would decrease employer costs marginally in MP plans but substantially in defined benefit plans. In fact, some of the entries in Table 10 are negative, implying that the employee contributions alone (2.5 per cent of the payroll) would be more than sufficient to subsidize the projected benefits under certain circumstances.

#### 4. CONCLUSIONS

In the foregoing, three basic plans were examined under various economic assumptions and vesting rules, for employees with different mobility characteristics and periods of participation in the labour force. The analysis was based on probabilistic models designed to characterize the ultimate benefit to be derived by a typical employee (or by a group of similar employees) from his or her career membership in pension plans. The ensuing pension costs were also modelled and computed by an adaptation of the projected benefit cost method to lifetime pension benefits. The results presented and discussed in the paper have important implications regarding the current status of the private pension system in Ontario, and the expected consequences of more liberal vesting rules.

On the basis of the results obtained, arguments that can be put forward regarding the virtues and limitations of alternative vesting rules must be preceded by an assessment of the plan types examined in the paper in terms of employee benefits, employer costs, as well as the social objectives of the government, which supports these plans through tax expenditures. Although the employers are primarily concerned with the magnitude and unpredictability of pension costs as a function of the payroll, the main issues of importance for the employees have been the existence and value of private pension benefits. On the other hand, in addition to the questions of distributional equity, the government is concerned with the overall well-being of the private pension system as a regulator (provincial level) and as a subsidizer (federal and provincial levels).

From the employees' perspective, defined benefit plans have a number of important drawbacks. First, pension benefits under CA plans deteriorate rapidly with inflation, as the accrual of pension is based on past wages. The prospects are somewhat better in 5Y plans where, although benefits related to previous employments would also erode rapidly with inflation, current job benefits would exhibit a good follow-up. Accrued pension benefits are fully protected from inflation only in MP plans in which both past and current benefits increase with interest rates reflecting inflation (Table 7). Secondly, and substantially for the same reasons, defined benefit plans (especially CA plans) are not "age neutral" because benefits for younger workers are lower in value than for older workers. Although there have been some proposals to eliminate age-related pension benefit differentials, it appears impossible

to construct age-neutral defined benefit plans.(12) In contrast, money purchase plans, in which the employer contributes a fixed percentage of employee earnings, are clearly age-neutral. It should be noted, however, that benefit differentials due to age would prevail even in MP plans, except under full and immediate vesting, so long as termination rates decrease with age.

In addition to being very sensitive to inflation and age, pension benefits under CA plans are not well related to the current economic status of the worker, for wages grow but past benefits do not (Figure 3). This relationship is improved in MP and 5Y plans where, in the latter, current job benefits are based on final earnings. Also, in relation to other forms of saving, the comparative value of benefits in CA plans is difficult to ascertain for the average worker; such a comparison should necessarily involve annuities. This difficulty is compounded in 5Y plans because of wage growth in the current job. In MP plans, on the other hand, accrued pension benefits are readily comparable with other assets.

As to the relative advantages to the workers of defined benefit plans, it might be noted that such schemes promise a fixed benefit rate, not a fixed contribution rate as in MP plans. Evidently, the latter would increase the uncertainties about future benefits. It is also true that the accrued benefit is easily comparable with current wage in defined benefit plans but not in MP plans, where it is necessary to go back through annuities. Such advantages, however, fall short of explaining the relative popularity of defined benefit plans in Ontario and elsewhere in North America.

Money purchase plans offer notable advantages for employers also. For one thing, cost of a defined benefit plan fluctuates with economic conditions (Tables 9 and 10), as the cost of the annuity depends on the prevailing rate of return on investment, while the cost of a MP plan has a known upper bound implied by the rate of contribution. In addition, defined benefit plans are difficult to cost for the firm because of uncertainties involved in the projection of economic conditions, termination rates, and wages.(13) Costing of a MP plan, on the other hand, is almost immediate.

In defined benefit plans, there may be incentives for the firms to formulate hiring and retention policies that are discriminatory to older workers, because such plans are not age-neutral and pension costs are relatively higher for older workers; such incentives would be more pronounced in final earnings plans under which the employers may expect the largest relative reductions in mobility.(14) As pointed out in the discussion of pension benefits, 5Y plans are highly sensitive to rates of termination, followed by MP and CA plans.

From the point of view of the government, distribution of pension income across the retired workers of comparable pre-retirement economic



status would be most equitable and uniform under CA plans. At the other extremes are the 5Y plans with highest distributional dispersions, with MP plans falling somewhere in between (see Tables 5 and 6 for coefficients of variation and Gini coefficients). The same relative ranking of the three plan types also prevails in relation to the efficient allocation of labour, as CA plans place the lowest restriction on mobility and 5Y plans the highest. In terms of preserving the purchasing power of the pension income relative to the earnings of comparable non-retired workers, however, CA plans are inferior to both 5Y and MP plans. In this regard, a comparison between the last two types of plan would depend on when changes in economic conditions (i.e., wage growth, interest rate) take place and on the timing of annuity purchases. Finally, in relation to the impact of regulation through statutory vesting rules, it has been established that CA and MP plans are highly sensitive but 5Y plans are relatively neutral to vesting provisions.

These observations are summarized in Table 11 which also includes ordinal ranking of the three plans through various criteria of importance to workers, employers, and the government. Two conclusions emerge: overall, MP plans best serve the interests of all three economic agents; the impact of vesting rules cannot be isolated from and thus should be assessed independent of plan types. In turn, the latter issue must be addressed from two different directions: incremental changes in pension-related measures induced by alternative forms of more liberal vesting provisions in different plans; and comparative effects in different plans of delayed vesting characterized by these alternatives relative to full and immediate vesting.

Some of the results reported in Section 4 are reproduced in Tables 12 and 13 as multiples of the corresponding values under the rule 45 and 10 in defined benefit plans.<sup>(15)</sup> It is apparent that liberalization of vesting rules would have a larger impact on CA plans and in higher termination sectors. It is also apparent that removing the age requirement from the current statutory vesting rule 45 and 10 would result in marginal increases in costs and benefits and equally modest improvements in the distribution of benefits in defined benefit plans. Rule 40 and 5 or service 5 would result in comparable moderate increases in costs and benefits, and a more substantial liberalization can be achieved through rule 50 or rule 45.

The rationale in arriving at better regulatory alternatives should not be based, however, largely on considerations relative to current vesting standards. More important are the relativities with respect to ultimate benefits and costs under full and immediate vesting which has been characterized in this study by the rule service 1. Performances of different vesting rules relative to this form of vesting are also given in Tables 12 and 13 in terms of cost, benefit, and Gini ratios in defined benefit plans. It is interesting to observe that the effects of the rules service 5 and 40 and 5 in CA plans are comparable to the effects of service 10 and 45 and 10 in 5Y plans. A comparative examina-

Table 11  
Assessment and Ordinal Rank of Plan Types in Terms of Various Factors/Criteria

Economic agent	Factor/criterion	Assessment (ordinal rank) of plan		
		CA	5Y	MP
Worker	(1) Inflation	Fast deterioration of previous and current benefits (3)	Fast deterioration of previous, good follow-up by current job benefits (2)	Increase of past and current benefits with interest rate reflecting inflation (1)
	(2) Aged related benefit differentials	Very high age-related pension differentials (3)	High differentials with partial smoothing by current job benefits (2)	Differentials due only to vesting rules and termination rates (1)
	(3) Comparability with current economic status	Very weak follow-up (3)	Comparability of 5Y with MP of changes in terms of wage growth, interest rate, and annuity purchase; it may go either way (1-2)	MP depends heavily on the timing of changes in terms of wage growth, interest rate, and annuity purchase; it may go either way (1)
	(4) Comparability with current wage	Easy (2)	Easy (1)	Difficult, must be backtracked through annuities (3)
	(5) Comparability with other assets	Difficult, should be based on annuities (2)	Difficult, should be based on annuities and wage growth in current job (3)	Immediate (1)
	(6) Cost	Variable, depending on inflation (2)	Very variable, depending on inflation and promotion (3)	Known upper bound - rate of contribution (1)
	(7) Costing of plan	Difficult except under PTCM - hard projection of economic conditions (2)	Difficult - very hard projection of economic conditions, termination rates, and wage growth (3)	Almost immediate (1)
	(8) Labour mobility	Small relative reduction (3)	Large relative reduction as past years in current job are upped (1)	Small relative reduction (1)
	(9) Cost differentials related to hiring age	High differentials (2)	Very high differential due to wage at termination (3)	Small differentials due only to interaction of vesting rules and termination rates (2)
	(10) Equitable distribution of pension wealth	Lowest gini and coefficient of variation (1)	Highest gini and coefficient of variation (3)	Moderate distributional indexes (2)
	(11) Comparability of retired to non-retired	Inferior to 5Y (3)	Comparability of 5Y with MP of changes in terms of wage growth, interest rate, and annuity purchase; it may go either way (1-2)	MP depends heavily on the timing of changes in terms of wage growth, interest rate, and annuity purchase; it may go either way (2)
	(12) Efficient allocation of labour	Less restriction on mobility is probably best (1)	High restriction on mobility (3)	Medium restriction on mobility (2)
Firm				
Government				



Table 12  
 Selected Measures for Career Average Plans Indexed on the Corresponding Values  
 under the Rules 45 and 10 and Service 1

Termination rates	Vesting rules	Expected benefit (total cost) in non-contributory plans	Gini index in non- contributory plans	Expected cost in contributory plans	
				Total	Employer
Low	45 and 10	1.00 (.89)	1.00 (10.00)	1.00 (.95)	1.00 (.86)
	Service 10	1.02 (.91)	.86 (9.00)	1.01 (.96)	1.02 (.86)
	40 and 5	1.07 (.95)	.49 (5.00)	1.03 (.98)	1.11 (.93)
	Service 5	1.09 (.97)	.39 (4.00)	1.03 (.99)	1.13 (.95)
	Rule 50	1.09 (.97)	.29 (3.00)	1.04 (.99)	1.15 (.96)
	Rule 45	1.10 (.98)	.23 (2.00)	1.04 (.99)	1.16 (.97)
	Service 1	1.12 (1.00)	.10 (1.00)	1.05 (1.00)	1.19 (1.00)
Medium	45 and 10	1.00 (.72)	1.00 (6.50)	1.00 (.89)	1.00 (.63)
	Service 10	1.03 (.74)	.94 (6.00)	1.01 (.90)	1.03 (.65)
	40 and 5	1.19 (.86)	.50 (3.25)	1.06 (.95)	1.30 (.82)
	Service 5	1.23 (.88)	.46 (3.00)	1.07 (.96)	1.35 (.85)
	Rule 50	1.30 (.94)	.25 (1.50)	1.10 (.98)	1.48 (.93)
	Rule 45	1.33 (.96)	.20 (1.25)	1.11 (.99)	1.51 (.95)
	Service 1	1.39 (1.00)	.15 (1.00)	1.13 (1.00)	1.60 (1.00)
High	45 and 10	1.00 (.52)	1.00 (6.71)	1.00 (.83)	1.00 (.41)
	Service 10	1.04 (.54)	.97 (6.43)	1.01 (.83)	1.04 (.42)
	40 and 5	1.39 (.73)	.54 (3.57)	1.09 (.91)	1.65 (.68)
	Service 5	1.44 (.75)	.51 (3.43)	1.10 (.91)	1.71 (.71)
	Rule 50	1.73 (.90)	.22 (1.43)	1.17 (.97)	2.20 (.90)
	Rule 45	1.80 (.94)	.19 (1.29)	1.18 (.98)	2.26 (.93)
	Service 1	1.91 (1.00)	.15 (1.00)	1.21 (1.00)	2.43 (1.00)

Table 13  
Selected Measures for Last Five Years' Average Plans Indexed on the Corresponding Values under  
the Rules 45 and 10 and Service 1

Termination rates	Vesting rules	Expected benefit (total cost) in non-contributory plans	Gini index in non- contributory plans	Expected cost in contributory plans	
				Total	Employer
Low	45 and 10	1.00 (.93)	1.00 (1.46)	1.00 (.97)	1.00 (.95)
	Service 10	1.02 (.95)	.93 (1.31)	1.00 (.97)	1.01 (.96)
	40 and 5	1.04 (.97)	.81 (1.15)	1.02 (.99)	1.03 (.98)
	Service 5	1.05 (.98)	.77 (1.08)	1.02 (.99)	1.04 (.99)
	Rule 50	1.05 (.98)	.74 (1.08)	1.02 (.99)	1.04 (.99)
	Rule 45	1.06 (.99)	.72 (1.00)	1.03 (1.00)	1.04 (.99)
Medium	Service 1	1.07 (1.00)	.68 (1.00)	1.03 (1.00)	1.05 (1.00)
	45 and 10	1.00 (.81)	1.00 (2.00)	1.00 (.92)	1.00 (.84)
	Service 10	1.03 (.83)	.95 (1.94)	1.00 (.92)	1.01 (.84)
	40 and 5	1.12 (.91)	.71 (1.41)	1.05 (.96)	1.10 (.92)
	Service 5	1.15 (.93)	.68 (1.35)	1.06 (.97)	1.12 (.94)
	Rule 50	1.19 (.96)	.57 (1.18)	1.07 (.98)	1.16 (.97)
High	Rule 45	1.21 (.97)	.54 (1.12)	1.08 (.99)	1.17 (.98)
	Service 1	1.24 (1.00)	.50 (1.00)	1.09 (1.00)	1.19 (1.00)
	45 and 10	1.00 (.62)	1.00 (2.74)	1.00 (.85)	1.00 (.65)
	Service 10	1.03 (.64)	.97 (2.68)	1.00 (.86)	1.01 (.66)
	40 and 5	1.27 (.79)	.65 (1.79)	1.08 (.92)	1.25 (.82)
	Service 5	1.30 (.81)	.63 (1.74)	1.09 (.93)	1.28 (.83)
	Rule 50	1.48 (.93)	.43 (1.16)	1.15 (.98)	1.45 (.95)
	Rule 45	1.53 (.95)	.40 (1.11)	1.15 (.98)	1.47 (.96)
	Service 1	1.60 (1.00)	.37 (1.00)	1.17 (1.00)	1.53 (1.00)

tion of the Gini ratios reveals, also, that the previously noted high distributional inequities in 5Y plans are primarily due to the plan type, while in CA plans the main negative factor is the vesting rule. Therefore, if the new regulatory guidelines in relation to delayed vesting are to balance the impacts of different plan types, statutory vesting rules applicable to CA plans ought to be more liberal than those applicable to final earnings plans.

It is also clear from these results that both rule 50 and rule 45 approximate, in effect, full and immediate vesting in defined benefit plans, except in relation to distributional equity. These rules, however, would create additional complications for workers and firms in their valuation of the defined benefit pension scheme. More importantly, they would further the negative effects of age-dependent pension differentials by providing additional incentives for the firms to formulate hiring policies that are discriminatory to older workers.

Table 14 shows that the impact of alternative forms of liberalization on MP plans would be comparable, in general, to that observed in CA plans with an important qualification that the age requirement is much more influential in MP plans than in defined benefit plans. On the other hand, more is lost due to vesting in MP plans. In fact, it is seen through measures relative to service 1 that the performance of service 5 in MP plans is remarkably similar to the performance of 40 and 5 in CA plans.

In conclusion, growth of defined contribution (money purchase) plans should be encouraged as the most important means of reforming the private pension system in Ontario. In terms of the alternatives examined in this paper, vesting rules should not be more restrictive than service 5 in defined contribution plans and 40 and 5 in defined benefit career average plans; a more stringent benchmark may be considered for defined benefit final earnings plans. Since defined benefit plans are not restricted to career average and last five years' average modes (in fact, these are extreme forms) the latter differentiation leads to the perhaps undesirable prospect of prescribing a different vesting rule for every benefit formula. The rule 50 and 5 could, therefore, be adopted for all defined benefit plans and the rule service 5 for all defined contribution plans. If a single statutory minimum provision is to replace the rule 45 and 10 in all plans, then the most appropriate choice appears to be the rule service 5.

Table 14  
 Selected Measures for Money Purchase Plans Indexed on the Corresponding Values under the Rules 45  
 and 10 and Service 1

Termination rates	Vesting rules	Expected benefit (total cost) in non-contributory plans	Gini index in non- contributory plans	Expected cost in contributory plans	
				Total	Employer
Low	45 and 10	1.00 (.84)	1.00 (7.00)	1.00 (.93)	1.00 (.85)
	Service 10	1.06 (.89)	.71 (5.00)	1.02 (.95)	1.06 (.90)
	40 and 5	1.08 (.90)	.62 (4.50)	1.03 (.96)	1.07 (.91)
	Service 5	1.14 (.95)	.35 (2.50)	1.05 (.98)	1.14 (.96)
	Rule 50	1.10 (.92)	.52 (3.50)	1.04 (.97)	1.10 (.93)
	Rule 45	1.13 (.94)	.40 (3.00)	1.05 (.98)	1.12 (.95)
	Service 1	1.20 (1.00)	.14 (1.00)	1.07 (1.00)	1.18 (1.00)
Medium	45 and 10	1.00 (.65)	1.00 (7.00)	1.00 (.86)	1.00 (.67)
	Service 10	1.09 (.71)	.85 (6.00)	1.03 (.87)	1.09 (.73)
	40 and 5	1.20 (.78)	.57 (4.00)	1.06 (.92)	1.20 (.80)
	Service 5	1.32 (.86)	.44 (3.00)	1.10 (.95)	1.31 (.87)
	Rule 50	1.29 (.84)	.45 (3.25)	1.09 (.94)	1.27 (.85)
	Rule 45	1.36 (.88)	.35 (2.50)	1.11 (.96)	1.33 (.89)
	Service 1	1.54 (1.00)	.14 (1.00)	1.16 (1.00)	1.49 (1.00)
High	45 and 10	1.00 (.46)	1.00 (6.71)	1.00 (.81)	1.00 (.49)
	Service 10	1.10 (.51)	.92 (6.14)	1.02 (.82)	1.10 (.54)
	40 and 5	1.40 (.64)	.57 (3.86)	1.09 (.88)	1.39 (.68)
	Service 5	1.55 (.71)	.49 (3.29)	1.12 (.91)	1.53 (.75)
	Rule 50	1.65 (.76)	.37 (2.43)	1.14 (.92)	1.59 (.78)
	Rule 45	1.81 (.83)	.29 (2.00)	1.17 (.94)	1.73 (.85)
	Service 1	2.18 (1.00)	.15 (1.00)	1.24 (1.00)	2.03 (1.00)



## NOTES

- (1) Most pension plans in Ontario are defined benefit plans using a variety of benefit formulas. CA and 5Y plans being considered in this paper are common in practice and represent benchmark extremes; final earnings plans are restricted by law to the average wages of the last three or more years. Money purchase plans constitute about 6 per cent of plan members and 40 per cent of plans in Ontario. The benefit and contribution levels used are arbitrarily selected, but the results can readily be adjusted to other levels. (For example, costs and benefits in defined benefit plans with 2 per cent benefit level would be twice as high.)
- (2) Two additional rate schedules, representing the actual experience of the Ontario Public Service Superannuation fund in the period 1974-76, were also used throughout most of the study. Results obtained under these schedules were included in the reports submitted to the Royal Commission but will not be discussed in this paper. All termination rate schedules were constructed by Laurence Coward and Towers, Perrin, Forster and Crosby of Toronto.
- (3) The loading was removed from the GAM Table and a projection for mortality improvement was incorporated by Towers, Perrin, Forster and Crosby of Toronto.
- (4) Computations were also carried out using somewhat higher rates of mortality taken from Male Life Table, Canada, 1970-1972. These rates are also given in the Appendix and the annuity cost differences implied by the two different tables will be noted later in this section.
- (5) These projections were made and provided to us by the Royal Commission on the Status of Pensions in Ontario.
- (6) O. Marcotte, and Y. Balcer, "Lifetime Wages and Earnings Patterns in Canada," (mimeographed report, 1977); P. Diamond, R. Anderson, and Y. Balcer, "A Model of Lifetime Earnings Patterns," Consultant Panel on Social Security to the Congressional Research Service, Report (Washington, D.C.: Government Printing Office, 1976).
- (7) Similar wage functions relevant to last five years' average plans can also be constructed but are not shown in Figure 3. It should be noted, however, that since benefits related to a creditable year of service depend on the wage at termination in final earnings plans, there will be a wide disparity relative to career-average plans.
- (8) As noted before, rates of return are based on the long-term government bond index. It was subsequently decided to recompute some of the results using somewhat higher rates of return to account for the private sector and as an additional dimension in sensitivity analysis.

- (9) Standard deviations can easily be computed by multiplying the entries of Table 5 with the corresponding entries of Table 4.
- (10) See H.E. Winklevoss, Pension Mathematics, with Numerical Illustrations (Pension Research Council, Irwin, Illinois, 1977).
- (11) Recall that the defined benefit plans are based on a 1 per cent benefit level and that the level of contribution in the MP plan is 6 per cent. If these levels are increased, cost differences in question would also increase proportionately. Recall also that neither absolute nor incremental costs under MP plans are directly comparable with those under defined benefit plans.
- (12) See B.S. Barnow and R.G. Ehrenberg, "The Cost of Defined Benefit Pension Plans and Firm Adjustments," Quarterly Journal of Economics (forthcoming), for a comprehensive analysis and discussion of this issue as it relates to cost-neutrality to firms in hiring workers of different ages.
- (13) In CA plans, costing would be relatively easy if the firm used the "plan termination cost method," but harder under other actuarial cost methods. See B.S. Barnow and R.G. Ehrenberg, "The Cost of Defined Benefit Pension Plans and Firm Adjustments," Quarterly Journal of Economics (forthcoming), for a comprehensive analysis and discussion of this issue as it relates to cost-neutrality to firms in hiring workers of different ages.
- (14) Unfortunately, such influences are not well reflected in the results because of the assumed independence in the foregoing policy simulations of termination rates, wages, and plan characteristics. This assumption avoids the estimation problems related to the extent to which varying plan parameters would affect labour turnover (the individual response) or cause compensating variations in wages (the market response). Such considerations do not limit the usefulness of the results, however, so long as they are interpreted with due regard to elements that are not incorporated in the models.
- (15) Ratios in Tables 12, 13, and 14 are for age group 25-65 under the most probable economic scenario. Ratios for different age groups and economic assumptions are similar.

## Appendix A - Methodology

Pension plans may be divided into two broad categories: defined benefit plans and defined contribution plans. A defined benefit plan may in turn be a unit benefit plan under which pension benefits are determined with reference to the remuneration of an employee for each year or for a selected number of years of service, or a flat benefit plan under which pension benefits are expressed either as a fixed amount in respect of each year of employment or a fixed periodic amount. The most common version of a defined contribution plan is the money purchase plan under which pension benefits are determined upon the retirement of an employee by the accumulated amount of past contributions. Defined benefit plans may be contributory (i.e., both employees and the employer contribute) or non-contributory (i.e., only the employer contributes); most money purchase plans are contributory.

In almost all defined benefit plans and in some defined contribution plans, a terminating employee is entitled to pension benefits at retirement if he or she is of a prescribed minimum age at the time of termination (the age requirement); and/or he or she has completed a prescribed minimum number of years of service with the organization (the service requirement). These requirements are called vesting rules (standards or provisions); if they are met, the pension is vested in the employee, contributions are "locked-in," and the employee collects benefits from it upon retirement even if he or she never again works for the organization involved. If termination occurs before vesting, the employee is entitled only to a return of his or her contributions with some interest.

An important proxy measure for pension benefits at retirement is the length of qualifying service (i.e., a length of service that qualifies or is "creditable" under the vesting rules in effect). Given the structural features of a specific pension plan and the rates of termination applicable to plan members, qualifying service in the plan can be characterized without much difficulty. Such an exercise would not be very useful, however, as a basis for the discussion of various policy issues related to lifetime pension benefits. The relevant measure is the cumulative qualifying service accruing from a career membership in pension plans. Important determinants of this measure, in turn, would be the length of the working life, periods of employment, termination rates, vesting rules, pension plan coverage, and portability (or transferability).

Since the employment termination process is a random process, qualifying service in a given plan as well as career qualifying service can be fully characterized only through probabilistic models. To illustrate the general structure of the basic model used in the following applications, let  $h^n(i)$  denote the length of qualifying service under a given vesting rule for an employee who terminates an employment of length  $i$  at



working age  $n$ . For example, under the rule of full vesting after ten years of service, we have

$$h^n(i) = \begin{cases} i & \text{if } i \text{ is greater than or equal to } 10 \\ 0 & \text{if } i \text{ is less than } 10 \end{cases}$$

and, under the rule 45 and 10, we have

$$h^n(i) = \begin{cases} i & \text{if } i \text{ is greater than or equal to } 10 \text{ and} \\ & n \text{ is greater than or equal to } 45-a \\ 0 & \text{otherwise} \end{cases}$$

where  $a$  is the age at entry. Next, let  $p^n(i)$  be the probability that an employment of duration  $i$  years at working age  $n$  will continue for at least one additional year. Note that  $p^n(i)$  are complements of select termination rates. If we now denote by  $W^n(i, j)$ , the probability that the current employment at working age  $n$  is of  $i$  years length and that  $j$  years have been vesting in previous employments, we can write:

$$W^n(i, j) = W^{n-1}(i-1, j) p^{n-1}(i-1), \quad i=2, 3, \dots, n, \quad j=0, 1, \dots, n$$

$$W^n(1, j) = \sum_{i=1}^{n-1} W^{n-1}(i, j-h^{n-1}(i) [1-p^{n-1}(i)]), \quad j=0, \dots, n$$

These relations determined the probabilities  $W^n(i, j)$  recursively which in turn can be used to compute the distribution  $Q^N(j)$  of career qualifying service at working (or retirement) age  $N$  by:

$$Q^N(j) = \sum_{i=1}^N W^N(i, j-h^N(i)), \quad j=1, 1, \dots, N.$$

Under the abstraction that the pension is wage indexed (i.e., accrued at the same rate as the rate of growth of the average wage) qualifying service at retirement can be regarded as pension benefits expressed as a fraction of the wage at retirement. This assumption does not hold in practice, however, and the above model should be converted to that of pension benefits. This conversion is trivial in flat benefit plans. It can also be carried out for unit benefit and money purchase plans by appropriately modifying the function  $h^n(i)$  so as to transform the lengths of qualifying service to pension benefits, taking into account benefit formulas, benefit levels, wage profiles, and wage growth rates.

In unit benefit plans, for example, pension benefits accruing from an employment of length  $i$  years that terminates at working age  $n$  can be expressed as:

$$h_{w,k}^n(i) = k \cdot h^n(i) \cdot f(w_{n-i+1}, w_{n-i+2}, \dots, w_n)$$



where  $k$  is the benefit level (usually 1 per cent to 2 per cent),  $w_j$  is the wage at working age  $j$ , and  $f$  is a function that established the way in which career wages are taken into account. In career-average-earnings plans  $f(w_{n-i+1}, w_{n-i+2}, \dots, w_n) = (w_{n-i+1} + w_{n-i+2} + \dots + w_n)/i$  and in final-wage plans  $f(w_{n-i+1}, w_{n-i+2}, \dots, w_n) = w_n$ , with several other possibilities and practices in between these extremes. The wages involved may be taken as unindexed relative wages computed from  $w_n = (1+g)^{n-N}$ , such that  $w_N = 1$ , where  $g$  is the growth rate of the average wage and  $N$  is the age of retirement. Or, these can be computed from  $w_n = (1+g)^{n-N}(1+r)^{N-n}$ , as the value at time  $N$  of the relative wage paid at time  $n$  if it were indexed by the inflation rate  $r$  from time  $n$  to time  $N$ . Wage profiles reflecting wage differences in different ages can also be incorporated.

If we replace the function  $h^n(i)$  in the expressions presented above in relation to qualifying service by  $h \sum_{w,k}^n(i)$ , we arrive at a framework for modelling pension benefits at retirement as a percentage of the wage in the year preceding retirement. This framework represents the theoretical basis for the benefit and cost models to be used in the applications reported here. Certain aspects of the methodology are covered in more detail in Y. Balcer and I. Sahin, "Probabilistic Models for Pension Benefits," Journal of Risk and Insurance, 46(1979), pp. 99-123.

Appendix B  
Probabilities of Remaining in the Same Employment for an Additional Year as of Function of Attained Age and Tenure for High,  
Medium, and Low Mobility Sectors

Attained age	Mobility	Duration of employment										
		0	1	2	3	4	7	12	17	22	27	32
22	High	.412	.604	.700	.757	.796	.862					
	Medium	.618	.736	.800	.838	.864	.908					
	Low	.809	.868	.900	.919	.932	.954					
27	High	.440	.624	.715	.769	.806	.866	.910				
	Medium	.627	.749	.810	.846	.871	.911	.940				
	Low	.814	.874	.905	.923	.936	.956	.970				
32	High	.468	.642	.728	.781	.816	.872	.914	.934			
	Medium	.645	.761	.819	.854	.877	.915	.943	.956			
	Low	.822	.880	.910	.927	.938	.958	.972	.978			
37	High	.493	.658	.742	.792	.824	.880	.918	.937	.948		
	Medium	.662	.772	.828	.861	.883	.920	.946	.958	.965		
	Low	.831	.886	.914	.930	.942	.960	.973	.979	.982		
42	High	.518	.676	.754	.802	.834	.884	.922	.940	.950	.956	
	Medium	.679	.784	.836	.868	.889	.923	.948	.960	.967	.971	
	Low	.840	.892	.918	.934	.944	.962	.974	.980	.983	.986	
47	High	.541	.691	.766	.811	.841	.890	.925	.943	.952	.958	.964
	Medium	.694	.794	.844	.874	.894	.927	.950	.962	.968	.972	.976
	Low	.847	.897	.922	.937	.947	.964	.975	.981	.984	.986	.988
52	High	.564	.706	.778	.820	.848	.896	.929	.946	.954	.960	.967
	Medium	.709	.804	.852	.880	.899	.931	.953	.964	.970	.974	.978
	Low	.854	.902	.926	.940	.950	.966	.976	.982	.985	.987	.989
57	High	.584	.721	.788	.829	.856	.901	.932	.949	.956	.962	.968
	Medium	.723	.814	.859	.886	.904	.934	.955	.966	.971	.975	.979
	Low	.862	.907	.930	.943	.952	.967	.978	.983	.986	.988	.990

Appendix C  
Mortality Rates

Age	Mortality rate			Mortality rate			Mortality rate		
	GAM	Male Life table	Age	GAM	Male life table	Age	GAM	Male life table	
20	.000524	.0017810	47	.003907	.0056127	74	.051474	.0606918	
21	.000543	.0018411	48	.004400	.0062159	75	.055566	.0655171	
22	.000566	.0018657	49	.004933	.0068820	76	.060364	.0707965	
23	.000589	.0018340	50	.005501	.0076117	77	.066249	.0766410	
24	.000615	.0017500	51	.006106	.0084061	78	.072953	.0829766	
25	.000644	.0016447	52	.006744	.0092659	79	.080085	.0897294	
26	.000676	.0015492	53	.007418	.0101672	80	.087862	.0970103	
27	.000712	.0014944	54	.008124	.0111092	81	.095916	.1049301	
28	.000751	.0014816	55	.008866	.0121282	82	.104202	.1125998	
29	.000794	.0014901	56	.009577	.0132603	83	.112857	.1229454	
30	.000842	.0015181	57	.010313	.0145417	84	.121713	.1328930	
31	.000895	.0015636	58	.011113	.0159649	85	.130743	.1435535	
32	.000953	.0016246	59	.012091	.0175060	86	.140002	.1550377	
33	.001018	.0016949	60	.013216	.0191759	87	.149447	.1674566	
34	.001089	.0017758	61	.014452	.0209856	88	.159267	.1807363	
35	.001168	.0018766	62	.015773	.0229460	89	.169541	.1948027	
36	.001253	.0020070	63	.017202	.0250341	90	.180337	.2097668	
37	.001348	.0021764	64	.018935	.0272425	91	.191428	.2257396	
38	.001454	.0223866	65	.020982	.0296059	92	.202675	.2428318	
39	.001571	.0026315	66	.023475	.0321591	93	.215006	.2609695	
40	.001700	.0029081	67	.026287	.0349367	94	.229719	.2800788	
41	.001862	.0032136	68	.029332	.0378967	95	.245661	.3002707	
42	.002082	.0035452	69	.032595	.0410161	96	.262162	.3216559	
43	.002352	.0038886	70	.036284	.0443578	97	.280078	.3443454	
44	.002674	.0042458	71	.040205	.0479848	98	.299603	.3682653	
45	.003041	.0046380	72	.044043	.0519601	99	.320625	.3933416	
46	.003453	.0050865	73	.047723	.0562097	100	.343642	.4196852	

**Trends in Retirement Age and the Implications for Pension Planning:  
An Economic Analysis**

**James E. Pesando**

**August, 1979**

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## INTRODUCTION

The question of whether mandatory retirement based exclusively on age ought to be banned receives a great deal of current attention. The most striking characteristic of the labour force behaviour of older workers in recent years, however, has been a continuing trend toward earlier retirement. Data on retirement decisions per se are not available, but existing figures on labour force participation rates provide a close approximation. These data, summarized in Table 1, confirm the steady trend toward earlier retirement for males in the 55-64, 65-69, and over-70 age categories. For females, for whom there has been a dramatic increase in participation rates as a whole for the past twenty years, the trend toward early retirement is still evident in the 65-69 and over-70 age categories.

The purpose of this report is to highlight the major economic implications of the trend toward early retirement, particularly as they pertain to pension planning. The report is organized around five major topics:

1. analysis of the trend toward earlier retirement;
2. the labour market implications of this trend;
3. the macroeconomic consequences of early retirement;
4. the impact of the trend toward early retirement on the design of public pension plans; and
5. the impact of this trend on the design of employment pension plans.

### The Trend Toward Earlier Retirement

Analysis of this trend, in both Canada and the United States, has focused on the relative importance of two factors: first, the health of the employee as he approaches what may be termed the "normal" retirement age of 65; and second, the resources that he has available to finance his retirement. The latter consists of income from public pension programs, employer-sponsored and other private pension plans, and the accumulated value of other prior savings. The argument that health of the employee is a crucial factor is weakened prima facie by the fact that the trend toward earlier retirement has occurred during a period in which life expectancies have increased and the delivery of health services has improved. Further, much of the evidence which supports this view is drawn from survey responses, in which individuals are more likely to give socially acceptable reasons for early retirement such as poor health. Formal statistical studies of the labour force participation behaviour of older workers in the United States assign a far greater role than to survey techniques, to the availability of public pensions and other resources necessary to finance retirement.

Table 1  
Labour Force Participation Rates, Older Males and  
Females, 1961-1977(a)

	Participation rate					
	Males			Females		
	55-64	65-69	70+	55-64	65-69	70+
	(Per cent)					
1961	85.9	50.4	22.0	24.6	10.8	3.8
1962	85.3	49.2	20.4	25.2	11.2	3.4
1963	85.1	45.0	19.3	26.1	12.1	3.4
1964	85.3	47.1	18.4	27.2	12.6	3.8
1965	85.6	46.0	18.1	28.6	12.4	3.4
1966	85.3	46.7	17.5	30.2	11.8	3.5
1967	85.0	45.7	15.1	30.3	12.2	3.4
1968	84.7	44.1	15.2	30.8	12.4	3.4
1969	84.6	41.3	15.5	32.1	11.7	2.9
1970	83.6	37.5	16.3	31.6	10.3	2.9
1971	82.5	32.8	14.6	32.8	10.6	2.9
1972	81.6	31.1	13.1	31.5	9.1	2.5
1973	80.6	30.6	12.3	32.9	9.3	2.4
1974	79.5	30.0	11.9	31.5	8.8	2.4
1975	79.3	29.9	10.9	30.7	9.5	2.3
1976	76.8	25.4	9.7	32.0	7.9	2.1
1977	76.6	25.1	9.2	32.2	8.4	2.0

a Annual data are averages of monthly rates from Statistics Canada, *The Labour Force*, with rates prior to 1976 converted to the "new" definition, as compiled by Burbidge and Robb (1978).

The trend toward earlier retirement is readily explained in the traditional work-leisure, life-cycle framework employed by economists to analyze labour supply decisions. In this framework, leisure is recognized to be a normal good whose consumption will increase as the wealth of the household increases. Rising per capita incomes over time, together with the expansion of institutionalized retirement incomes in the form of public programs such as OAS and CPP/QPP, have enabled many Canadians to consume more leisure in the form of earlier retirement. Of particular importance in this regard has been the facilitating role of public policy. Over the period 1966 to 1970, eligibility for OAS and GIS was gradually reduced from age 70 to 65, presumably in response to public pressure. The introduction of the CPP/QPP, together with the expansion of OAS and GIS benefits, created intergenerational transfers in which the wealth of present workers increased at the expense of future taxpayers. These intergenerational wealth transfers, which have undoubtedly facilitated the earlier retirement of many, are a by-product of the pay-as-you-go nature of these public programs. Tax or contribu-

tion rates for OAS/GIS and CPP/QPP will undoubtedly have to increase in the years ahead, thus highlighting the fact that early participants in these plans receive net benefits far in excess of their contributions. Similar arguments hold for freely available or subsidized services to the elderly, particularly health care, which are financed out of general tax revenues and thus on a pay-go basis. In short, the trend toward earlier retirement - as more individuals use their rising real incomes to consume greater leisure time in the form of earlier retirement - has undoubtedly been accelerated by public policies which have transferred additional wealth to current retirees and elderly workers from future taxpayers.

The logic of searching for the causes of the trend toward earlier retirement is to help predict whether or not this trend will continue. To the extent that the current trend is in part a manifestation of public policy, there also remains the possibility of using policy levers to slow or even reverse it if so desired. Although the issue is open to some debate, the consensus view appears to be that - in the absence of major changes in the age of entitlement to public programs and subsidies targeted to the aged - the trend will continue, at least for a while. Denton and Spencer (1978), in a background study prepared for the Economic Council of Canada, make what appears to be a representative set of projections. For males aged 55-64, they project a drop from the 1977 participation rates of 76.6 per cent to 74.5 and 70.0 per cent respectively, in 1981 and 1991. For males aged 65-69, the corresponding figures are from 25.1 to 21.9 and 15.0 per cent respectively. For females aged 55-64, Denton and Spencer project a modest increase from 32.2 per cent in 1977 to 34.0 per cent by 1991. For females aged 65-69, they project a decline during this period from 8.4 to 5.0 per cent. As a working approximation, Denton and Spencer assume that these participation rates stabilize after 1991.

Given first, the projected rise in per capita incomes in the years ahead and second, the maturing of both the CPP/QPP and many employer-sponsored pension plans, the continuance of the trend toward earlier retirement is likely. Working in the opposite direction, although not likely to reverse the trend, is the fact that the intergenerational wealth transfers associated with the public programs will decrease sharply over time, especially for middle- and upper-income Canadians. In another background study for the Economic Council of Canada, Rea (1978) assesses the net benefits (the present value of future benefits less the present value of future contributions and the accumulated value of prior contributions) of OAS/GIS and CPP/QPP by income class and age cohort. Assuming first that contribution rates to the CPP/QPP are not raised until the fund is exhausted in 2007, and are set at pay-as-you-go rates thereafter, and second, that OAS/GIS benefits are financed from personal income taxes, Rea contrasts the net benefits to today's older workers (the 1925-29 cohort) with those to new entrants to the labour force (the 1960-64 cohorts). For the older workers, averaged over all income classes, net benefits (in thousands of 1977 dollars) per worker



equalled \$9,300 from CPP/QPP and \$3,700 from OAS/GIS for a total of \$13,000. For the new entrants, however, net benefits per worker equalled \$7,450 from CPP/QPP and minus \$4,760 from OAS/GIS, for a net total of only \$2,690. The net benefits to the older cohort of OAS/GIS are higher if these benefits in fact turn out to be more closely indexed to wages than to prices (i.e., via subsequent liberalization of benefits), and the net costs to the younger cohorts are higher as well. While these figures are contingent upon a specific set of underlying assumptions, they suffice to make the basic point. The net intergenerational wealth transfer that has facilitated the trend toward earlier retirement of current workers will fall sharply for younger cohorts, thus removing one force that facilitated the decision by many to opt out of the labour force at progressively younger ages.

On balance, the projected continuance of the trend toward earlier retirement - at least for another decade - appears likely. Given the existence of significant numbers of workers (as evidenced by selective contract negotiations in the mining, automobile, and other industries) who would opt for early retirement if their financial circumstances permitted, rising real incomes - and the probable willingness of some workers to devote a larger fraction of their total compensation to deferred wages (pensions) - should facilitate this development. As noted elsewhere by the present author (Pesando 1979), there does not appear to be a very high probability that the net trend toward lower participation rates by older workers will be reversed if mandatory retirement based exclusively on age is banned. Since leisure appears to be a normal good whose consumption increases with household wealth, there remains the possibility that the increased demand for leisure may take the form of longer vacations, reduced length of the work week or the like rather than earlier retirement per se. Although this may well turn out to be true, in which case the trend toward earlier retirement might be slowed or even reversed, such speculation and subsequent analysis are beyond the scope of the present report.

### Labour Market Implications

As noted, the fundamental implication of the trend toward earlier retirement is the attendant reduction in the labour force participation rates of older workers, which cet. par. reduces the supply of labour for the economy as a whole. From the long-run perspective of models of economic growth, in which full employment of the labour force is presumed, the unambiguous implication is that the trend toward earlier retirement will reduce both the level and rate of growth of real output or GNP. This concern is treated at greater length in the analysis of the macroeconomic implications of the trend toward earlier retirement.

From the short-run perspective of an economy characterized by "high" unemployment, is there not some advantage cet. par. in the lower participation rates of older workers? This question invites the following observations: At present, the unemployment rate in Canada stands at



7.7 per cent, and is disproportionately high among younger workers. The significance of this figure is linked ultimately to the full employment target for the Canadian economy. Given the inevitable presence of structural unemployment (the job skills and geographic location of the unemployed do not match those that are required in available job openings) and frictional unemployment (there are always some workers who are between jobs either by choice or in response to the inevitable shifts in the composition of demand across industries), together with institutional constraints such as minimum wage laws which impede the operation of the market economy, the Canadian economy is simply not capable of achieving a very low rate of unemployment. Although there is no agreement on this issue, a majority view among economists is that an appropriate full-employment target for Canada is an aggregate unemployment rate of 5.5 to 6.0 per cent. This rate is higher than that envisioned a decade ago, in large part due to the liberalization of unemployment insurance benefits together with the very rapid increase in the labour force associated with the higher participation rates of women and the maturing of the baby boom generation. The point, of course, is that the target for the aggregate unemployment rate must be specified before one can assess the magnitude of any potential reduction in the current unemployment rate. The fact that the number is probably less than 2 per cent, rather than the larger figures that are sometimes cited, places an important perspective on the present issue.

Thus, even if the jobs characteristically held by older workers could be easily and rapidly filled by younger workers, the scope for relief from high youth unemployment is not necessarily large. Of equal importance, the labour force characteristics of workers aged 65 and over differ sufficiently from those of the labour force as a whole to suggest that their retirement would not translate into a comparable number of job openings for younger workers. Almost 30 per cent of workers aged 65 and over are either self-employed or employers, compared to only 8.2 per cent for the labour force as a whole. Over 25 per cent of male workers aged 65 and over are involved in farming, horticultural, and animal husbandry, compared to only 6 per cent for male workers as a whole. The incidence of part-time work is also much higher among workers aged 65 or older. In 1977, for example, 23 per cent of males aged 65 or over were employed on a part-time basis, compared to only 3 per cent of those aged 55-64. The higher incidence of part-time work again lowers the likelihood that the trend toward earlier retirement - especially among those who would otherwise work beyond the normal retirement age of 65 - will create a significant number of job opportunities for younger workers. Finally, given the widespread recognition that the labour force growth in Canada will begin to slow sharply in the mid-1980s, there is little reason from the employment side to take solace from the probable continuance of the trend toward earlier retirement.

To the extent that this trend continues, and given the preferential treatment in most defined benefit plans to long-standing employees, there might cet. par. be a reduction in the mobility of labour, espec-

ally among those who would contemplate earlier retirement. From this perspective, there may develop greater public pressure to increase the portability of pension benefits, liberalize vesting requirements, and extend protection against cost-of-living increases in employment pension plans. As Pesando and Rea (1977) emphasize, however, the observer must not forget that delayed vesting and other impediments to labour mobility implicit in many such plans are effectively designed to help employers retain skilled employees and to reduce costly turnover. Their elimination, in turn, is likely to lead firms to use alternative devices (wage scales more steeped with respect to years of service, longer vacations tied to years of service, and so on) to reduce cet. par. what would otherwise be an increase in labour mobility.

Finally, to the extent that a reversal of the trend toward earlier retirement is felt to be desirable from the viewpoint of public policy, there obviously exist a number of manpower policies that the government could promote. The most obvious would be policies, including potential subsidies, to encourage workers to provide more flexibility (for example, in terms of hours) and thus promote a more gradual transition from full-time work to retirement.

### The Macroeconomic Impact

As noted, economists prefer to analyze the retirement decisions in terms of the work-leisure, consumption-savings decisions implicit in life-cycle models of household behaviour. To the extent that rising per capita incomes lead households to consume more leisure in the form of earlier retirement, this result and its macroeconomic consequences can be labelled as neither good nor bad from the viewpoint of valuing the right of individuals to make their own decisions, given the rules of the game. To the extent that intergenerational wealth transfers formalized in public programs to provide income security to the aged have facilitated this trend, however, there may remain some concern that such public policies might need to be rethought. If the original decision had been to fully fund the CPP/QPP, for example, the implication is cet. par. that the trend toward earlier retirement would have slowed. At the same time, the political pressure to implement programs which entail such intergenerational transfers is quite predictable, an issue which arises later in the discussion of the design of public programs.

In general, the reduction in the effective supply of labour associated with earlier retirement will cet. par. reduce both the level and rate of growth of real output (GNP). This reduction, for given tax rates, will imply lower tax revenues than would otherwise be the case. If households decide to work less and to consume more leisure in the form of earlier retirement, and if they plan to reduce their consumption in their pre-retirement as well as in their post-retirement period, then they must save more during their work lives to finance the selected standard of living in their longer retirement period. If so, the trend toward earlier retirement should be accompanied by an increase in the



personal savings rate, at least until participation rates settle at their new long-term levels. Any increase in saving cet. par. is likely to lead to an outflow of capital from Canada, thus placing downward pressure on the foreign exchange value of the Canadian dollar. (The resulting increase in the trade balance, as exports rise and imports fall, is the counterpart to the rise in the savings rate. Note that an increase in the trade balance offsets the decline in consumption, so that total demand for goods and services produced in Canada - and hence employment - does not decline.) The important point is that since Canada is a small, open economy which is closely tied to the United States in particular, any increase in personal saving is not likely to significantly reduce interest rates and thus serve as a stimulus to real capital expenditures in Canada. To the extent that interest rates begin to fall, certain transactors who are sensitive to interest differentials would withdraw their funds from the Canadian capital market in search of higher yields in the United States and elsewhere. In so doing, their behaviour will tend to reverse any decline in Canadian interest rates. As a result, there is not likely to be a major stimulus to real investment spending by Canadian firms in response to any increased personal saving, and thus no offset to the reduction in the rate of growth of the Canadian economy associated with the trend to earlier retirement. At the same time, it is worthwhile to note that the counterpart to this result is that pension fund managers need not worry that such an increase in personal saving would significantly reduce the returns available on their traditional investment outlets.

To the extent that workers opt for reduced consumption in favour of greater saving or finance their extended retirement years, is there likely to be downward pressure on the rate of inflation in Canada? This speculation, perhaps unfortunately, has little merit. Economists agree that the long-term rate of inflation is determined by the rate of growth of the money supply, less the rate of growth of real output. If the Bank of Canada pursued the same monetary policy (i.e., permitted the same long-term rate of growth of the money supply), the rate of inflation - ignoring the second-order effects on the rate of growth of real output arising from lower participation rates of older workers - would be the same. Hence one cannot associate a potential increase in the personal savings rate, a logical consequence of the decision by more households to opt for a longer retirement period, with downward pressure on the rate of inflation in Canada in the years ahead.

To sum up, the major macroeconomic consequence of the continuing trend toward earlier retirement is a decline in both the level and the rate of growth of potential output. This decline, in turn, implies a reduction in the tax base, and is likely to be accompanied by an increase in the personal savings rate until participation rates settle at their new long-term levels. (Such an increase in savings rates would not occur only if (a) households intended to finance longer retirement periods with reduced amounts of accumulated savings, which would imply a lower planned standard of living during retirement and/or (b) households



did not reduce their level of consumption during their work years on the assumption that increased - perhaps income-tested - wealth transfers from public programs during their retirement years would enable them to maintain a satisfactory standard of living.) Note also that any increase in the desire to save in order to finance a longer retirement period may increase the demand for institutionalized savings, perhaps in the form of employment pension plans.

The final and important issue relates to the quantitative importance of the effects identified above. The following calculation provides some perspective on this question. In 1961, the participation rate of men aged 55-64 was 85.9 per cent, and this rate fell in the ensuing fifteen years to 76.8 per cent in 1976. If the participation rate for this group had not declined, the participation rate would have been 9.1 percentage points higher in 1976. Since there were 928,000 men aged 55-64 in the labour force in 1976, these figures translate into a potential increase in the labour force of 84,400. Since the total labour force in 1976 was 10.23 million, this amounts to a potential increase in the labour force of .82 per cent. Since labour's share of national income is about 70 per cent, the .82 per cent increase in the labour force corresponds to a .57 per cent increase in potential output. If this same calculation were applied to men aged 65-69 and 70 and over, the figure would of course be higher.

To push this example further would require assumptions about the productivity of older workers versus the national average, the relative incidence of part-time to full-time work in the older age groups versus the labour force as a whole, and more age-specific participation rates than are compiled by Statistics Canada. A crude approximation, based on the spirit of the above calculations, is that potential output - and hence the standard of living - in Canada would have been one per cent higher in 1976 if there had been no trend toward earlier retirement since 1961. To the extent that this trend continues, the fall in potential output will clearly increase in the years ahead. The decline in potential output, and hence in the aggregate standard of living, is the inescapable by-product of the decision by households to work less and thus enjoy more leisure.

#### Impact on the Design of Public Programs

There is little doubt that the intergenerational wealth transfers implicit in the pay-go nature of CPP/QPP and OAS have facilitated the decision by many Canadian workers to opt for earlier retirement. At the same time, the income-tested nature of GIS and the various provincial supplements serves as a tax on the earnings of low-income households and thus cet. par. provides incentives to earlier retirement for those who might otherwise work beyond the entitlement age of 65. (In British Columbia, the provincial supplement, GAINS, provides benefits on an income-tested basis at age 60.)

There is also little doubt that current and prospective retirees will continue to press for the liberalization of OAS/GIS and CPP/QPP benefits, on the presumption that the main burden of these costs will pass to the next generation of workers. In short, prospective retirees will seek further inter-generational wealth transfers, in part to facilitate the desire of many to retire at an earlier age. The request that the age of entitlement to both OAS/GIS and CPP/QPP be reduced is easily foreseen. Suppose, for example, that the age of entitlement were reduced without restriction to age 60. There are two distinct avenues through which the effective cost or tax burden of this change would be felt. First, if household retirement decisions were unaffected, the costs - and hence the necessary change in tax rates - could be calculated in a straightforward fashion. In fact, however, additional workers would use their increased wealth to opt for greater leisure and earlier retirement. As a result, the effective labour supply would fall and both potential output and the tax base would contract accordingly. As a result of this second channel, the increase in tax rates or the tax burden implied by the reduction in the entitlement age would be magnified. The costs arising from the first channel are easy to establish. Those from the second are not, given the absence of precise estimates of how individual retirement decisions respond to such enabling wealth transfers. The crucial point is that careful studies by Pellechio (1979) and others with U.S. data have unambiguously established the fact that an increase in the present value of social security entitlements serves cet. par. to encourage workers to retire at an earlier age. Although the application of the U.S. experience to Canada merits qualification in view of the fact that social security benefits are income tested, there can be little doubt that the basic result is true in Canada as well.

In view of the obvious costs of a reduction in the age of entitlement under public programs which provide retirement incomes, some proponents of this view will undoubtedly suggest that this burden be reduced by income-testing OAS and perhaps CPP/QPP benefits. Such changes would, however, unambiguously serve to discourage work by those beyond the basic age of entitlement, a result borne out by repeated studies in the United States. Not only would the resulting incentives serve to encourage retirement at the now younger age of entitlement, but they are also likely to reduce the labour force participation of those who would otherwise work beyond the age of entitlement under the existing scheme. This reduction in work translates, in turn, into a lower tax base to which benefit payments are ultimately tied. Economists in the United States favour the abolition of the income test on social security benefits as a means of encouraging those aged 65 or above to remain in the labour force. A "package" in Canada which would attempt to reduce the cost of lowering the age of entitlement to public programs by introducing an earnings test for OAS or CPP/QPP would be very unattractive indeed. Note that an analogous result obtains if a retirement rather than an income test is placed on the benefits from these programs.



In view of the obvious cost effects of a move to unreduced benefits at an earlier age, effects whose importance is magnified by emerging demographic trends, there remains the question of whether actuarially reduced benefits from OAS and CPP/QPP should be made available to those who would opt for earlier retirement. In principle, the costs of these programs would remain unaffected if the actuarial reductions were appropriate. In fact, the existence of income-tested programs (GIS and the various provincial supplements) would guarantee that the total costs of public programs to provide income for the aged would increase. Actuarially adjusted (that is, lower) benefits from OAS and CPP/QPP would imply that a larger number of Canadians would qualify for income-tested benefits. The costs of these benefits, also financed on a pay-go basis, would again assume greater importance in view of the substantial increase in the pensioner ratio that will occur in the years ahead. There also exists the possibility of allowing Canadians to obtain actuarially increased OAS and CPP/QPP benefits if they choose to postpone the initial receipt of benefits. The attractiveness of this option would relate to the tax consequences of postponing these benefits and might appeal to those who choose to work beyond age 65 and would like to take advantage of the resulting income averaging. This option, if desired, would appear more reasonable than its counterpart, although it is not clear that there would be much demand for it. At the same time, it could serve to signal to employers and employees alike that a comparable adjustment might be appropriate for employer-sponsored defined benefit plans. To the extent that workers at present receive no such adjustment if they opt for delayed retirement, a disincentive to work beyond the normal retirement age in these plans might be eliminated. (See Pesando [1979] for a fuller discussion of this issue.)

Although much of the prior discussion has focused on the possible reduction in the age of entitlement under public programs, the fact that any enrichment in benefits without a commensurate increase in costs to active workers (and thus prospective retirees) will serve as a catalyst toward earlier retirement must be emphasized. At present, OAS/GIS and CPP/QPP benefits are all indexed to the price level, so that their real value will not be arbitrarily reduced by inflation. There exists the likelihood that many will press for the wage indexation of these benefits, so that retirees can "share" the benefits of rising labour productivity. To the extent that such liberalization takes place, either contractually or on the basis of ad hoc adjustments, the rise in benefits is again tantamount to a wealth transfer and, based on available evidence and analysis, will serve to encourage earlier retirement.

The question of whether to wage index the benefits of the public programs draws attention again to a final and crucial issue: what are the implications for tax burden of future workers of the present benefit and contribution-tax structure, and will this tax burden ultimately jeopardize the delivery of the benefits so promised? As is well known (see, for example, Pesando and Rea [1977]), the pensioner ratio will increase sharply after the turn of the century, raising the question of



whether future workers will accept the higher tax burden implicit in the pay-go funding of the public plans. Some have noted that there will be a decline in ratio of those under age 14 to the active work-force - thus providing some relief, since the dependency ratio will rise, if at all, by considerably less than the pensioner ratio. In fact, however, there is little relief in these figures, since per-person government expenditures are from 2 1/2 to 3 times greater for older dependents than for youths. Further, any potential cost saving implicit in the decline in the ratio of young dependents is likely to be difficult to realize, as those sectors with declining constituencies seek to prevent the transfer of resources away from them. Note, for example, the predictable attempt by educators to maintain their relative claim on public funds in spite of the current and continuing decline in enrolment.

The potential importance of the rising share of GNP to be devoted to supporting the elderly must be kept in perspective. Rea (1978) calculates that the ratio of public expenditures on income support for the aged will rise, on the assumption that OAS/GIS benefits increase with average incomes, from about 4 1/2 per cent of aggregate earnings (about 3 per cent of GNP) in 1980 to 8 1/2 per cent of aggregate earnings by 2030. Although this potential increase is significant, it is not of the disaster proportions that some observers have intimated. None the less, it draws attention to the increased tax rates for future generations implicit in the pay-go funding of these public programs, and suggests caution in any proposed initiative to liberalize their benefits.

#### Impact on the Design of Employment Pension Plans

If early retirement options in these plans are provided without an appropriate actuarial reduction in the value of benefits, then two issues immediately arise. First, contribution rates for the plan must increase to cover the actuarial increase in costs, which implies the more rapid accumulation of funds and cet. par. an increase in saving in the form of institutionalized pension arrangements. The consequences of an increase in savings have been discussed as part of the macroeconomic impact and do not bear repeating. Higher saving in this form, if not offset elsewhere by a reduction in discretionary saving, simply reflects the requirement that households save a larger fraction of their labour income in order to finance a longer retirement period. Second, since the costs of the plan will increase, there arises the question of cost incidence. Who will ultimately bear the cost of the higher contribution rates if more employees begin to opt for early retirement - either unilaterally or with mutual consent of the employer?

The crucial point to recognize is that if total costs of the plan increase due to the introduction of early retirement options and the contribution rates paid by employees do not increase, it does not follow that the incidence of the higher costs falls on the employer. To the extent that the effective increase in pension entitlements or deferred wages is offset by reductions in other components of the total compensa-

tion package relative to what otherwise would have occurred, the incidence of these higher costs falls on the employee. Formal evidence showing the ultimate incidence of the costs of such enrichments on the deferred component of the compensation package is difficult to pinpoint, either theoretically or empirically. A study of the incidence of social security taxes in the United States by Brittain (1972) suggested that the incidence of this payroll tax fell entirely on employees, which is to be expected if the supply of labour is unaffected by the tax. Other studies, including that of Ehrenberg (1977), provide strong support for the hypothesis that employees who receive more generous pension benefits cet. par. receive lower current wages. In short, there is both direct and indirect evidence that employees ultimately bear a large portion of any such increase in costs. One certainly cannot conclude that employer costs rise dollar for dollar with each increase in the value of pension benefits. From the perspective, any increase in the number of plan sponsors who provide early retirement options without actuarially reduced benefits must reflect - at least in part - the tacit agreement of workers to receive a larger fraction of their total compensation package in the form of deferred wages.

If early retirement options become more widespread, then a number of other issues should be noted. First, the cross-subsidies implicit in defined benefit plans are likely to be attenuated, as those who opt for early retirement cet. par. earn a higher implicit rate of return on their explicit or implicit pension contributions. Second, such a trend is likely to be accompanied by increased political pressure to lower the age of entitlement to public pension programs to enable workers to take advantage of the retirement options in their employer-sponsored plans. At present, for example, some employers provide "bridge" payments to employees who retire before the age of 65 and are thus not immediately eligible for OAS and CPP/QPP benefits. The need for such payments simply anticipates the potential pressure for a lowering of the entitlement age in public programs. (At the same time, it should be noted that a reduction in this age of entitlement would reduce the pressure on employers to offer unreduced benefits to those who opt for early retirement under their plans.) Third, the availability of unreduced benefits imposes an effective tax on the earnings of those employees who do not opt for early retirement. This incentive, of course, serves cet. par. to discourage work by those who have reached the age at which unreduced benefits become available. (In defined benefit plans, earlier retirement cet. par. is likely to imply a reduced pension since the number of years of pensionable service will be less. None the less, as can easily be shown, the present value at the actual time of retirement of these reduced benefits exceeds the present value at this same time of the higher benefits that would be payable if the employee worked until he reached the normal retirement age under the plan. This higher present value is, of course, the actuarial increase in costs associated with an employee opting for early retirement.) This observation invites the question of whether employers are initiating early retirement options - or are more willing to accept them - in those industries in which cet. par. the pro-



ductivity of older workers is more likely to have fallen or the productivity of older workers is more difficult to monitor.

An important and widely acknowledged deterrent to the exercise by employees of the early retirement option is uncertainty regarding the preservation of the real value of their pension entitlements during the current period of high inflation. I have discussed this issue at length in other reports, and would draw attention here to only a few salient remarks. First, if there exists a genuine desire on the part of many workers to opt for earlier retirement, then pressure to improve the effective indexing of employment pensions will increase. Second, if such improvements are made or the rate of inflation begins to subside, more employees may exercise the early retirement option and thus perhaps raise the cost of these provisions relative to what had been anticipated. Again, since workers who are at or near the age at which the early retirement option is available will not bear the full cost of these new provisions (although successive generations of workers may well do so), the effective wealth transfer - in a manner analogous to the intergenerational wealth transfers in public programs - may enable more workers to "consume" more leisure time in the form of earlier retirement.

Since employers may well succeed in passing most if not all of the higher costs of early retirement options back to workers in the form cet. par. of reductions in other parts of the total compensation package, the major concern stemming from this practice may arise from the attendant pressure to lower the age of entitlement to public programs. As for the practice of providing actuarially increased benefits for those who opt for postponed retirement, I have argued elsewhere (Pesando 1979) that this practice is to be encouraged if the goal is to encourage work by those who have reached normal retirement age under their employer's plans.

#### SUMMARY AND CONCLUSIONS

The trend toward earlier retirement in Canada, as evidenced by the steady decline in the participation rate of older (especially male) workers, is appropriately analyzed in the work-leisure, consumption-saving model of life-cycle behaviour that economists employ to study the labour supply decisions of households. Rising per capita incomes, reinforced by the intergenerational wealth transfers implicit in the pay-go financing of OAS/GIS, CPP/QPP and subsidized health and other services to the elderly, have enabled many Canadians to opt for more leisure in the form of earlier retirement. To the extent that there still exists a significant number of Canadians who would choose to retire earlier if their economic circumstances permitted, together with the rise in per capita incomes and the maturing of both the CPP/QPP and many private pension plans which will occur in the years ahead, this trend is likely to continue.



The loss in potential output of the Canadian economy implied by the trend toward earlier retirement can be identified neither as "good" nor "bad." The decline in potential output is the inevitable consequence of the decision by more households to work less and to enjoy more leisure. To the extent that the decision by Canadian workers to retire earlier has been facilitated by wealth transfers implicit in public programs to provide income security to the aged, this dimension of these programs could merit rethinking if public objectives in this area were to change. In general, any enrichment of OAS/GIS or CPP/QPP benefits without a commensurate increase in costs to older workers will increase their wealth and cet. par. serve to encourage earlier retirement. No such cost increases however, are likely to be politically feasible, since public pressure for such enrichment inevitably presumes that much of the cost burden will be borne by succeeding generations of workers. Significantly, the introduction of early retirement options without full actuarial adjustment in many defined benefit plans implies an analogous cross-subsidy or intergenerational wealth transfer in certain employment plans, and the impact of these enabling wealth transfers is also likely to facilitate the trend toward earlier retirement.

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# Income Supplementation Programs for Pensioners in Ontario and Five Other Provinces

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## Income Supplementation Programs for Pensioners in Ontario and Five Other Provinces

In the 1970s six provinces introduced programs of income supplementation to needy pensioners aged 65 and over. This paper discusses the various programs, with particular emphasis on the Ontario Guaranteed Annual Income System (GAINS).

### ONTARIO GUARANTEED ANNUAL INCOME SYSTEM

#### Why GAINS?

The Ontario Guaranteed Annual Income Act was passed in June 1974, and the GAINS program went into operation the following month.(1) Its aim was to supplement the incomes needy Ontario pensioners receive from federal Old Age Security (OAS) and Guaranteed Income Supplement (GIS) payments. The government had recognized that many in the over-65 age group had no private pensions from their years in the work-force and, that their incomes after retirement were limited. In addition, the burden of inflation was falling disproportionately on persons dependent on fixed incomes whose real incomes were falling further and further behind those of wage and salary earners.

The government proposed to supplement the incomes of persons 65 and over to a level generally accepted as one that would provide enough money for them to live in dignity. The guaranteed level of income for the new program was determined from an examination of several low-income indicators such as those developed by Statistics Canada, the Senate Committee on Poverty, and Ian Adams.(2)

The level, somewhat above the income guaranteed in the federal OAS and GIS programs, is maintained by raising the GAINS guarantee every quarter when federal payments increase to offset rises in the cost of living. The guaranteed income level has risen, by discretionary increases and by the escalation of the federal benefits, from the original annual sum of \$2,600 for single recipients and \$5,200 for a couple to \$4,120 and \$8,000 respectively, January 1979. The maximum monthly payments from GAINS have also been raised from time to time to the current rates of \$38.88 for a single person and \$52.01 each for a couple.

#### Who Receives GAINS?

Payments under the program are made to needy persons age 65 and over who meet the residence requirements set out in subsection 1(h) of the Ontario Guaranteed Annual Income Act 1974, as amended:

"(h) 'eligible person' means a person who,

- (i) has attained 65 years of age or such lesser age as may be prescribed,
- (ii) is actually residing in Ontario and is entitled to receive a supplement that is paid to him or to his credit through the Ontario regional office of the Income Security Branch of the Department of National Health and Welfare of the Government of Canada,
- (iii) has resided in Canada for the ten years immediately preceding the date on which his application is approved or, if he has not so resided in Canada, has either,
  - (A) been present in Canada, prior to those ten years and after attaining 18 years of age, for a continuous period of, or for periods the aggregate of which is, at least equal to three times the aggregate periods of absence from Canada during those ten years, and has resided in Canada for at least one year immediately preceding the date on which his application is approved, or
  - (B) resided in Canada, after attaining 18 years of age and prior to the date on which his application is approved, for a continuous period, or for periods the aggregate of which is at least forty years, and
- (iv) has resided in Ontario for a period of one full year immediately prior to the date on which his application is approved or, after attaining 18 years of age and prior to the date on which his application is approved, has resided in Ontario for a continuous period, or for periods the aggregate of which is, at least twenty years."

The provisions in subsection (iii) correspond to the original residence requirements of the OAS program. Changes in the residence requirements for OAS were made, effective July 1977, to allow for the payment of partial pensions for residence as a fraction of the old forty-year maximum, with a minimum of ten years necessary to qualify. The "all or nothing" provisions of the old requirements are being altered, over a forty-year transition period, in order to recognize the greater contribution to society of longer-term residents and to allow for the international portability of benefits between countries that have agreed to recognize residence in both countries for pension purposes. The implications of these changes for the GAINS program - which guarantees an income level rather than a maximum monthly payment - would have been very expensive had not the legislation governing GAINS been amended, effective July 1, 1977 to correspond:



"1a

- (1) Subject to this Act and the regulations, a monthly benefit may be paid for any month after the month of June, 1977 to every person who is not eligible on the 30th day of June, 1977 to be paid an increment and who,
  - (a) has attained 65 years of age or such lesser age as may be prescribed;
  - (b) is actually resident in Ontario and is entitled to receive a partial monthly pension authorized to be paid under subsection 1.1 of section 3 of the Old Age Security Act (Canada) and to receive a supplement that is paid to him or to his credit through the Ontario regional office of the Income Security Branch of the Department of National Health and Welfare of the Government of Canada;
  - (c) has resided in Canada, after attaining eighteen years of age and prior to the day on which his application is approved, for a period or periods the aggregate of which is not less than ten years and not more than forty years; and
  - (d) has resided in Ontario for a period of one full year immediately prior to the date on which his application is approved or, after attaining eighteen years of age and prior to the date on which his application is approved, has resided in Ontario for a continuous period of, or for periods the aggregate of which is, at least twenty years.
- (2) A person who is not entitled to an increment under this Act on or before the 30th day of June, 1977 is eligible to be paid a monthly benefit under this section only when on or after the 1st day of July, 1977, he becomes entitled to receive a supplement and if on the day preceding the day on which his application is approved, he is a Canadian citizen residing in Ontario, or if not a Canadian citizen, is then legally resident in Canada and is residing in Ontario...and
- (4) Notwithstanding subsections 1 to 3, where the result of an international agreement concluded in accordance with section 22.2 of the Old Age Security Act (Canada) is that a person resident in Ontario becomes entitled to receive a supplement, the Lieutenant Governor in Council may make regulations respecting the manner in which this Act shall apply to any such case or class of cases affected by the agreement, for adapting this Act thereto, and for determining such persons' or class of persons' entitlement to, and the amount of, a monthly benefit under this Act, as appears to the Lieutenant Governor in Council to be necessary and advisable."(3)

During the transition period both sets of residence requirements will apply until everyone comes under the new rules. Thus, once a person has qualified for OAS on the basis of residence, has lived in Ontario for the required periods outlined, and has qualified for GIS on the basis of income, GAINS payments are forthcoming. Persons meeting these criteria are not required to apply for GAINS; once a GIS application is approved for an eligible Ontario resident, the Department of National Health and Welfare notifies the Ontario Ministry of Revenue and payments are made automatically. Only if persons do not qualify for the federal OAS must they apply for GAINS payments. Eligibility in such a case is also based on minimum age 65 and the following residence conditions:

"Residency in Canada for five consecutive years immediately prior to qualification date with the last full year in Ontario, or

Residency in Canada for periods totalling twenty years since reaching age eighteen, with the last full year prior to qualification date in Ontario, or

Residency in Ontario since reaching age eighteen for periods that add up to twenty years."(3)

Should residence in Ontario terminate, payments under GAINS will be stopped; however, there is provision for payment to persons temporarily absent from the province, as outlined in subsections 2(2) and 2(3):

"(2) No increment may be paid to any eligible person for...

(c) any month throughout the whole of which the beneficiary is absent from Ontario, having absented himself from Ontario, either before or after becoming a beneficiary, and having remained out of Ontario before that month for six consecutive months, exclusive of the month in which he left Ontario;"

and

"(3) Where, after becoming a beneficiary, a person remains out of Ontario for six consecutive months exclusive of the month in which he left Ontario, payment of his increment in any subsequent month during which he is only temporarily resident in Ontario may, without a hearing, be suspended, but payment may be resumed with the month in which he returns to Ontario to be principally resident in Ontario."(4)

#### When and How Much?

Once eligibility has been established, cheques are mailed to recipients on an individual basis, on the fifteenth day of each month. Therefore, each partner in a couple receives one-half of the amount awarded to the couple.

The amount that can be paid by GAINS up to a maximum depends on the level of income of the individual or the couple. A statement of income is completed in the annual application for GIS and serves as the basis of income calculation for both programs; GIS payments of course are income for GAINS purposes(5) The meaning of income follows closely the definition in the Income Tax Act of Canada and includes the following items:

- . payments from the Canada or Quebec Pension Plan
- . Old Age Security pension and Guaranteed Income Supplement
- . foreign pensions which are taxable in Canada
- . income from retirement pensions
- . annuity or superannuation payments
- . earnings from employment
- . net income from a profession or business
- . alimony
- . bank, bond, mortgage and other interest
- . net dividends (actual dividends received, less applicable carrying charges) and net taxable capital gains
- . Unemployment Insurance benefits
- . net rents from property

Other forms of income that are not included for GIS are payments such as welfare, Workmen's Compensation, veterans' benefits, Family Allowances, and support from relatives or charitable organizations. Assets - for example, the balance in a bank account - are not considered income, but any interest earned on them would be.

Once the income from all sources has been totalled, the amount of GAINS to be paid is calculated as the difference between that income and the guaranteed income level. Since that level is based on individual income and single recipients get higher maximum GIS payments than individual married recipients, the maximum GAINS amount payable to each partner in a couple is more than the maximum payable to a single recipient. Indeed, GAINS policy is to compensate couples for the GIS differential whereby the married rate is less than twice the single rate.

Persons paid at the single rate include those who are single, widowed, divorced, or married with a spouse under age 60 or between 60 and 65 who is ineligible for the Spouse's Allowance. When both partners are over age 65 and receiving GIS, benefits are paid at the married rate.

An anomaly creeps in, however, with the federal Spouse's Allowance program, which provides benefits for a pensioner's spouse who is between the ages of 60 and 65 when the couple's income is judged to be insufficient. While the Spouse's Allowance is not considered income for purposes of computing GAINS for the spouse who is over 65, the low GIS payments to such a pensioner - calculated at half the married rate rather than the single rate - are not offset by GAINS income. The guaranteed income level of \$3,842.88 for a married pensioner in this case is less



than that for a single person, though because of the Spouse's Allowance itself, the level of income of the couple is much higher than that indicated by the GAINS guarantee limit to the one recipient.

Until the end of 1978, except for the one anomaly, each individual GAINS recipient had the same total guaranteed income regardless of marital status. Beginning in January 1979, however, federal GIS benefits were increased by \$20 per account to compensate for the single pensioner's higher costs. Each single recipient at the maximum level received an additional \$20, and each member of a couple received \$10. Even though single recipients would now have a higher guaranteed income than each partner of a couple, the Ontario government decided not to change the maximum GAINS payment. With guarantee levels of \$4,120 and \$8,000 respectively, single recipients can now receive 51.5 per cent of the total for a couple.

Recipients' GAINS payments are reduced \$1 for every \$1 of outside income received, thereby maintaining the guarantee level. For example, a \$10 GAINS payment to a person who then acquires \$5 in outside income would be reduced \$5 to compensate. The \$5 from outside plus the \$5 from GAINS still ensures that the person has \$10 to bring the total income up to the guarantee level. Payments are not adjusted during the year for the extra income acquired. Any differences in the year's income will appear in the application for GIS the following April, and GAINS will be adjusted if needed at that time. Consequently any outside income acquired during the payment year is cash in hand until the next calculation.

As with GIS, computation of the monthly benefit to be paid under GAINS depends upon the income of recipients in the calendar year preceding the current fiscal year. The amount to be paid each month to a single recipient is the difference between one-twelfth of the guaranteed level and the Basic Monthly Income, which is defined as one-twelfth of the recipient's income in the calendar year ending next before the commencement of the current calendar year plus any payments from the OAS/GIS programs. For example, for a single person with bank interest of \$240 in the previous year, the GAINS payment would be calculated as in Table 1, based on January 1979 rates.

For each member of a couple the amount is based on the difference between one twenty-fourth of their income in the preceding calendar year and one twenty-fourth of the guarantee level.<sup>(6)</sup> Table 2 shows how the payment for a couple with a combined income of \$1,800 from, say, bank interest and a private pension would be calculated.

For those qualifying for OAS under the new residence rules, there is a provision for a maximum GAINS payment, as now exists for GIS. That is, persons receiving a partial OAS pension could receive the maximum GIS monthly payment and the maximum monthly amount from GAINS, even if

their total income did not reach either of the guarantee levels. To qualify for GAINS under these circumstances, a person must reside in Ontario for one full year prior to the qualification date or have lived in Ontario for an aggregate period of twenty years after reaching age 18.

Table 1  
Calculation of Monthly GAINS Payment for a Single Recipient, January 1979

<hr/>	
Average monthly outside income, 1978	
\$240 / 12	\$ 20.00
Old Age Security	167.21
Guaranteed Income Supplement	<u>137.28.</u>
Total income	\$324.49
 GAINS guaranteed income	 <u>343.37</u>
 GAINS payment	 \$ 18.88
<hr/>	
Source Government of Canada, Old Age Security, Guaranteed Income Supplement, Spouse's Allowance Tables of Rates in effect January - March 1979; Ontario Ministry of Revenue, Guaranteed Income and Tax Credit Branch.	

Table 2  
Calculation of Monthly GAINS Payment for a Married Couple, January 1979

<hr/>	
Average monthly outside income, 1978	
\$1,800 / 12	\$150.00
Old Age Security \$167.21 x 2	334.42
Guaranteed Income Supplement \$77.15 x 2	<u>154.30</u>
Total income	\$638.72
 GAINS guaranteed income	 <u>666.74</u>
 GAINS payment - couple	 28.02
- each	14.01
<hr/>	
Source Government of Canada, Old Age Security, Guaranteed Income Supplement, Spouse's Allowance Tables of Rates in effect January - March 1979; Ontario Ministry of Revenue, Guaranteed Income and Tax Credit Branch.	

Payments from the program currently total \$8 million per month. Of those currently benefiting from these payments, a substantial number, receive the maximum amount available (Table 3).

Table 3  
GAINS Recipients, by Amount of Benefit, December 1978

	Single(a)	Married, both recipients
\$2.50	3,034	2,301
2.51 - \$5.00	4,515	3,258
5.01 - 10.00	8,105	6,028
10.01 - 15.00	8,424	6,762
15.01 - 20.00	9,057	6,879
20.01 - 25.00	10,102	6,938
25.01 - 30.00	11,852	7,142
30.01 - 35.00	15,804	6,879
35.01 - 40.00	94,577	6,763
40.01 - 45.00	-	6,369
45.01 - 50.00	-	6,505
50.01 - 60.00	2(b)	12,194
Total	165,472	78,018

a "Single" includes single, married with spouse ineligible, or married with spouse receiving Spouse's Allowance.

b The two receiving more than the single maximum of \$38.88 would be persons not qualifying for OAS and thus guaranteed a higher level of benefits from GAINS.

Source Ontario, Ministry of Revenue, Guaranteed Income and Tax Credit Branch.

Tabulations of the sex of recipients are not kept consistently, but data from the GIS program provide some guide. They show that in mid-1978 some 62 per cent of Ontario GIS recipients were women. In addition, figures for recipients with the lowest level of outside income, who therefore receive the maximum payment from GIS, indicate that women outnumber men by a ratio of three to one - 60,227 women as against 21,341 men.(7) From these statistics it may be inferred that women are also the most numerous clients of the GAINS program.

In the coming years persons 65 and over can expect to have greater outside income, owing to the maturity of the Canada Pension Plan and private pension arrangements and to increased work-force participation of women. Unless there are major changes in the GAINS program, therefore, it can be seen as a transitional means of supporting those in need in the same way as the GIS does. We know that the proportion of OAS recipients receiving full payments under GIS has dropped from 19.1 per cent to 14.3 per cent in Ontario over the 1971-77 period, even though the guaranteed maximum has more than doubled in that time.(8) Figures for the GAINS program show that from a peak in January 1976, the number of clients and payments is steadily declining (Table 4).



Table 4

Clients and Payments under the GAINS Program, 1976 to 1979

	Clients		Total payments (Dollars)
	GAINS only	OAS/GIS/GAINS	
January 1976	6,193	276,144	10,338,000
January 1977	5,521	265,379	9,885,000
January 1978	3,959	253,928	9,029,000
January 1979	2,331	243,552	8,203,000

Source Ministry of Revenue, Guaranteed Income and Tax Credit Branch.

OTHER PROVINCES

Ontario is not the only province to supplement the incomes of needy persons 65 and over, though the amounts, rationale, and administration of the programs differ according to the jurisdiction. British Columbia, Alberta, Saskatchewan, Manitoba, and Nova Scotia have established similar programs.

British Columbia

This province was the first to provide an income-tested program for the senior population. The original MINCOME scheme, which began in 1973, was superseded in 1976 by the Guaranteed Available Income for Need Act (GAIN), bringing together previous acts governing social assistance and support programs for the elderly and handicapped. The program is based on need rather than income alone and takes assets into account. The Regulations define "assets" as

"any form of cash, or equity in property, stocks, bonds, certificates, or other possessions that could be converted to cash, but do not include those items referred to in subsections 8(3) and 8(4) of these regulations.

8(3) The following shall not be deemed to be assets when determining eligibility for benefits:

(a) Necessary household equipment, wearing apparel, and business tools:

(b) An uncashed life insurance policy with a cash surrender value of \$1,500 or less:

(c) Prepaid funeral costs:

(d) The family home partially or wholly owned and lived in by a recipient:

- (e) The first motor-vehicle used for transportation:
  - (f) Moneys received or to be received from a mortgage on, or agreement for sale of the recipient's previous home used as his or her ordinary residence, provided such moneys are applied to the amount owing on a home being purchased by that recipient and occupied as his or her ordinary residence, or provided such moneys are used by that recipient, for the payment of rent for accommodation occupied as his or her ordinary residence:
  - (g) Fishing craft and fishing gear owned and used by a commercial fisherman:
  - (h) Seed required by a farmer for the next crop year:
  - (i) Essential equipment and supplies for farming and commercial fishing:
  - (j) Basic stock herd on a farm which is the breeding-stock held at the date of application for benefits, and female stock held for stock replacement.
- (4) The Director may authorize that the total cash surrender value of an uncashed life insurance policy is totally exempt and not an asset for those who are handicapped and for those who are likely to be unemployable for a minimum of three months from the date of application for benefits."(9)

With this new Act the program was no longer essentially age-related, but rather provided general assistance to all those in need. However, some special provisions do exist for persons in certain age brackets. Those aged 60 and over are granted larger shelter allowances; additional asset exemptions may be authorized for those between 60 and 64; and persons aged 65 and over may be excused the asset test, up to certain limits.

Those receiving OAS and GIS are paid the provincial benefits automatically by the Department of Human Resources on the basis of lists supplied by the Department of National Health and Welfare. At the beginning of 1978, some 92,506 persons over 65 were receiving the provincial supplement.

GAIN guarantees a margin of income over and above the OAS/GIS payments, and the maximum payment for a single recipient is \$38.88 per month, bringing the guarantee limit to \$310.75 per month, in mid-1978. For a married couple the maximum payment is \$49.83 each with a guarantee limit of \$309.14 per month, each. The GAIN payment is reduced \$1 for every \$2 of other income.

## Alberta

In 1973 Alberta set up a supplementary plan for the elderly with the passing of the Senior Citizens Benefits Act 1973, which provided a flat \$10 per month to all OAS/GIS recipients resident in Alberta. In 1975 the program was renamed the Alberta Assured Income Plan (AAIP), and a scale of benefits was established from a minimum of \$10 monthly to a maximum of \$45.01. No application is required for benefits under the AAIP; as in other jurisdictions eligibility for the GIS is sufficient, provided the persons are permanent residents of Alberta. No qualifying period is required. Payments are made by the Department of Social Services and Community Health. The average number of recipients estimated in 1978 was 78,282 at a monthly expenditure of \$2,797,924.

The program is income-tested, and provincial benefits are reduced \$1 for every \$4 of other income. The program guarantees a margin of income above the OAS/GIS limits, up to the maximum payment in 1978 of \$45.01 for a single recipient and \$47.20 each for a married couple. As with GAINS in Ontario, the province compensates the couple for the differing maximum payments of GIS based on marital status. When OAS/GIS amounts are escalated quarterly for the cost of living, the guarantee limit is revised accordingly.

## Nova Scotia

Beginning in 1973 Nova Scotia set up a program of Special Social Assistance to provide once-a-year benefits to senior citizens on the basis of income and need.<sup>(10)</sup> The income test is that of the federal GIS and, once eligibility for payment has been established, application may be made for provincial supplements on the basis of need. Relevant definitions in the regulations are as follows:

- (1)(e) "Needy person" means a person in receipt of a Guaranteed Income Supplement under the Old Age Security Act of Canada, who may be determined by the Director as a person who qualifies for Special Social Assistance pursuant to Part VI of the Act and Regulations made thereunder;
  - (f) "Person in need" means a person in receipt of a Guaranteed Income Supplement under the Old Age Security Act of Canada, who, on the basis of a needs test similar to the one established pursuant to the regulations under the Family Benefits Act and Part II of the Act that takes into account the person's budgetary requirements and the income and resources available to him to meet such requirements, is found to be unable to provide adequately for himself, or for himself and his dependents, or any of them;...
- (6)(2) For the purpose of the test mentioned in the definition of "persons in need," the limitation of assets therein shall be:



- (a) Fifteen hundred dollars cash or liquid assets where the person in need is single.
- (b) Twenty-five hundred dollars cash or liquid assets where the person in need is married.

Application may be made in March of each year and, once need is established, grants are made on the basis of the amount of GIS received in March. Grants are made once a year in flat amounts of \$75, \$100, \$135, or \$150 for each eligible individual. Thus, each member of a married couple receiving GIS may apply.

Since a needs test is applied as well as the income test, the program is cost-shared with the federal government under the Canada Assistance Plan. In 1978 it covered between 50,000 and 56,000 persons; the annual cost is estimated at between \$5 and \$6 million.

### Manitoba

The Manitoba Supplement for the Elderly (MSE) came into operation on July 1, 1974, under the authority of the Social Services Administration Act. The program guarantees a level of income to recipients, based on eligibility for GIS. No application is required, with pensioners qualifying on the basis of income and residence in Manitoba. Income is defined as for the GIS program including earned income, bank or bond interest, and pension payments including Canada Pension. Such items as War Veterans' Allowances are not deemed to be income.

Payments are made quarterly by the Department of Health and Social Development at the end of January, April, July, and October. Payment amounts are not adjusted, but the guarantee ceiling is raised each quarter to reflect the federal cost of living increases.

In mid-1978 the annual guarantee limit was \$3,356.28 for a single pensioner and \$6,425.76 for a couple. The maximum quarterly payment is \$23.46 single and \$25.29 each for a couple, offsetting the GIS differential based on marital status. During the 1977/78 fiscal year, some 28,000 payments per quarter were made, and the annual cost for the benefit was \$2.3 million.

Unlike other provinces, Manitoba extends its benefits to persons between 60 and 64 who are receiving the Spouse's Allowance. The maximum payment is the same as for a couple when both are pensioners, namely \$25.29 each per quarter. When partial OAS benefits become payable, recipients may also qualify for the Manitoba benefit on the basis of personal income and the amount of GIS received.

## Saskatchewan

Saskatchewan, the sixth province to introduce a supplement for the needy elderly, enacted its Income Plan (SIP) in October 1975. The program guarantees a level of benefits over and above the federal OAS/GIS payments, and as is the case in some other provinces no application is required for the Saskatchewan supplement. The application for GIS, based on income as defined in that program is sufficient to establish eligibility for the supplement.

Payments are made by the Department of Social Services at the beginning of each month, and when the federal OAS/GIS benefits are escalated to reflect changes in the cost of living the ceiling on the provincial guarantee is raised accordingly. The level of provincial benefits is adjusted annually to reflect any changes in outside income that affect the GIS amount. Benefits are reduced according to the amount of any GIS reduction in the GIS payable according to category of recipient:

- \$1 for every \$1 reduction in GIS for single persons or couples where both are pensioners;
- \$3 for every \$1 reduction in GIS for a couple where only one is a pensioner;
- \$1 for every \$3 for couples of one pensioner and one Spouse's Allowance recipient.

Maximum payment from the SIP in the fall of 1978 was \$25 for a single person, a married person whose spouse was not a pensioner, and \$25 each for couples when one was in receipt of a Spouse's Allowance. For each person in a married couple when both were pensioners, the maximum was \$22.50. As of September 1978 some 35,000 persons were receiving benefits from the program.

## NOTES

- (1) S.O. 1974, c. 58.
- (2) Statistics Canada, Income Distributions by Size in Canada, 1976, Cat. 13-207, p. 24; Senate Special Committee on Aging, Final Report (Ottawa, 1970); Ian Adams, et al., The Real Poverty Report (Edmonton: M.G. Hurtig Limited, 1971).
- (3) An Act to Amend The Ontario Guaranteed Annual Income Act, 1974, S.O. 1977, c. 50.
- (4) Ministry of Revenue, Ontario Guaranteed Annual Income System (April 1978) p. 3.
- (5) An Act to Amend The Ontario Guaranteed Annual Income Act, 1974, s.3(1) provides as follows:

"...and for the purpose of determining the entitlement of any person to an increment or of determining the amount thereof, the Minister may treat an application under the Old Age Security Act (Canada) for a supplement or a statement of income furnished under that Act as an application or statement, as the case requires, under this Act, and when so treated, such application or statement shall be deemed in application or statement under the Act."
- (6) Ibid., 1(d).
- (7) Department of National Health and Welfare, Ottawa, June 1978.
- (8) Statistics Canada, Social Security National Programs, Cat. 86-201 (Ottawa, 1978), p. 525.
- (9) S.B.C. 1976, c. 19.
- (10) An Act to Amend Chapter 16 of the Act of 1970, the Social Assistance Act, S.N.S. 1973, c. 72.



# The Consumer Price Index

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## The Consumer Price Index

From its beginning in the early 1900s, the Consumer Price Index for Canada has evolved into a detailed and comprehensive measure of the percentage change through time in the cost of purchasing a constant "basket" of goods and services representative of the purchases of a particular population group in a specified time period. This paper outlines the origins of the CPI in Canada and its development into the sophisticated tool of today, capable of measuring price movements of some 650 items and expressing the combined effect in a monthly index. In addition, this study discusses the relationship of the CPI to spending patterns of the pensioner. It also examines some studies that have been carried out on separate CPI measurements for selected groups within the population to see if a "pensioner index" such as is frequently proposed would in fact be an improvement on the CPI as a measure of pensioners' needs.(1)

Authority for Statistics Canada to compile a consumer price index derives from the Statistics Act, passed in 1918, which provided for the collection of general statistics on demography, employment, finances, trade, and other related matters.(2) The list has since been expanded to include prices and the cost of living.

The history of the CPI and how it was constructed over the years since the passage of the Act has been outlined briefly by Statistics Canada:

"The first study on Canadian retail price changes, based on the cost to the consumer of a selection of goods and services, was undertaken in the early 1900s by Mr. R.H. Coats of the Department of Labour, who subsequently became the first Dominion Statistician. Prices for 29 food items and for five fuel and lighting items were gathered in approximately 60 cities, and these were related to a hypothetical family budget representing the weekly consumption of an urban working class family of five. Information was also obtained on the prevailing rent for a representative workingman's dwelling. Derived from these data, index numbers with the base 1900 = 100 were constructed for Canada and the provinces. The calculation of retail price changes relating to this family budget (with rent for a six room dwelling) was continued until August 1940.

"In addition, the Department of Labour also produced a 'Cost-of-Living Index' with base 1913 = 100. This was published semi-annually from 1914 to 1917, quarterly from 1918 to 1926, and monthly from 1927 forward. Group indexes for food, fuel and lighting, rent, clothing and sundries were given. An attempt was made to weight the commodity groups according to their actual importance, but no extensive family budget survey was carried out.



"The first Dominion Bureau of Statistics index of retail prices also had the base 1913 = 100. This index was calculated using prices from the Department of Labour series as well as those obtained directly from retailers. The weights used for this index were based on estimates of the total consumption of each commodity in 1913. It was subsequently presented in a revised form with base 1926 = 100, at which time the number of priced commodities was greatly increased and a system of sub-group and group weights were used. The whole weighting system was again based on estimated aggregate consumption in Canada.

"The index was subsequently revised in 1940 and placed on the base 1935-1939 = 100. On this occasion there was a change in the method of deriving the weights, which were obtained from a family budget survey conducted in 1938 of urban wage-earner families with annual earnings from \$450 to \$2,500.

"A subsequent family expenditure survey for the period 1947-48 provided the basis for the next thorough re-examination of the index. At that time its base was changed to 1949 = 100 and its title 'Cost-of-Living Index' was abandoned to avoid any implication that the index is a measure of all changes in living costs. At that time also, a definition of the index was established which remains essentially unchanged today.

"Soon afterwards, a series of small-scale biennial surveys of family expenditure was instituted to provide a basis for decisions on the need for subsequent revisions of the index. By 1957 and again in 1967, changes in urban spending patterns were deemed sufficient to warrant further revisions to the Consumer Price Index, which took place in 1961 and 1973 respectively." (3)

Effective September 1978 a further revision was made on the basis of results of the 1974 Urban Family Expenditure survey carried out by Statistics Canada. As can be seen from the short history of the CPI, its application has become more general over time, with an expansion in the number of items to be surveyed, broadening of the population, and a more frequent revision of the index. The latest revision continues this trend. Before looking at the recent changes, however, we must understand how the index actually works.

#### UNDERSTANDING THE CONSUMER PRICE INDEX

The CPI is a comprehensive measure of the percentage change through time in the cost of purchasing a constant "basket" of goods and services representative of the purchases of a particular population group in a specified time period. An explanation of each of the underlined phrases follows.

## Change Through Time

The CPI is quoted as a percentage of a base year value, at present 1971 = 100. The base has, to date, been changed at about ten-year intervals, and we might therefore expect an update on the basis of 1981 data.

The value of all items in the current survey is deemed to equal 100 on the scale in terms of 1971 prices, and the current index therefore marks their movement up or down from that value. For example, in September 1978 the index for television sets stood at 86.3 and for dwelling insurance at 334.8. This means that television sets now cost 86.3 per cent of what they did in 1971, and dwelling insurance costs more than three times as much as it did in 1971. Also, in September 1978 the index for butter was 194.4 and for margarine was 215.8; this does not mean that margarine now costs more than butter but simply that its price has risen faster from its 1971 level.

In the present index some items that reflect changed buying habits or lifestyle were entered on the basis of 1973 = 100. A few of them are: frozen foods; prepared and partially prepared dishes and snacks; women's sports and casual wear; coin laundry and dry cleaning; hair preparations; stereo combinations; pet expenses; and education fees.

## Constant Basket of Goods and Services

Every two years, Statistics Canada carries out a survey of Urban Family Expenditure to determine the spending patterns of the Canadian urban population. On the basis of these findings the most important items that are representative of the average spending patterns are selected for inclusion in the CPI measurement. Nearly 400 elementary groups of items make up the "basket" of goods and services and are chosen according to two major criteria: Only those items that have a price and for which a "pure" price change can be measured - that is, a price change that is not related to a change either in the quality or quantity of a good or service - are included. This is necessary to ensure that the "basket" remains constant over time, since products change or they may be improved, downgraded, or packaged differently, all of which can affect their price. For example, anyone who has recently purchased a chocolate bar has observed the reduced quantity supplied for the price. Another example occurred when seat belts in cars were made mandatory and their cost was added to the purchase price of cars. Since this new price reflected a change in the quality of the product, the survey had to determine what cost increase, if any, would have occurred without the enforced change in quality, and the CPI was adjusted only for the "pure" price change.

The total "basket" is divided into seven major categories: food; housing; clothing; transportation; health and personal care; recreation, education, and reading; tobacco and alcohol. Each category is further



subdivided into groups ("fruit and vegetables"), sub-groups ("fresh fruit") and items ("oranges"). In total, price changes for about 650 items are observed, though not all of them on a monthly basis.

"The pricing cycle starts in the latter part of each month and extends to the middle of the following month; for example, supermarket pricing takes place on the first Wednesday, Thursday and Friday of each month. Although prices of most CPI items including food, clothing, pharmaceuticals and gasoline are collected every month, some are priced less frequently. For example haircuts and dry cleaning are normally priced quarterly; automobile insurance is priced semi-annually and property taxes are priced on an annual basis. However, such goods and services scheduled for pricing at less than monthly intervals will be priced in any month when there is evidence to suggest that significant price changes may occur prior to the next regularly scheduled pricing."(4)

The items included are chosen because of their importance in the buying patterns of the people surveyed. Once the weight of an item or category is assigned - that is, the proportionate importance of the item to the whole basket - the individual items are chosen on which price measurements will be made. For example, "food" may make up 20 per cent of the basket, with "food for home consumption" making up 17 per cent. Of that portion, "meat and poultry" might make up 6 per cent, with "beef" at 3 per cent and "rib cuts" at .25 per cent. These percentage figures are the weights of the various items, sub-groups, or groups in the whole.

Items are selected by Statistics Canada field workers who sample in supermarkets, specialty shops, department stores, garages, hairdressers and so on and consult trade publications. In many cases they would consult with store managers or owners to determine what variety, size, or brand would be most representative of the average expenditure pattern. In this way, measurements can be assumed to reflect the price changes encountered by the average consumer. In their discussions the field workers try to identify the popular brands of the items in question and do not simply include the middle-priced brand or the medium-sized commodity. For example, perhaps because of fashion trends Pierre Cardin shirts may more closely reflect the price changes faced by the average buyer than do Arrow shirts; the king size detergent box may well outsell the giant size for reasons not related to price such as cupboard storage, weight when carried down to an apartment laundry, and so on. The criteria used for inclusion are that the items must meet certain quality standards and must be offered for sale in reasonable quantity. The prices reflected in the CPI are those that any member of the public would have to pay on pricing day to purchase the specific goods or services.

In some cases the item to be priced may be precisely specified; in other cases the national specification may be quite broad, and field workers may actually be pricing different varieties or brands of the



given item in different outlets. As an example of a specific description, the national description of a "standing prime rib roast of beef" reads in part as follows:

"Grade A, red brand steer beef; bone in, short cut (7 inches); roast cut from the 5-bone rib section next to the wing, called 'prime rib section'; regular standing rib cut, no special trim such as 'Chef Style,' not frozen; price of 1 pound (454 g.)"(5)

Over long periods of time it sometimes becomes undesirable or impossible to collect prices for the same item because of changes in consumer preference or discontinuance of the particular item. Substitutes are chosen in such cases, with specifications being revised accordingly and price quotations adjusted to eliminate changes attributable to quality differences. The technique is called "splicing"(6) and requires simultaneous observation of the new and old items for the transition period. Splicing is also used when retail outlets have to be changed because of the closing of a store, for example, or because the sample to be priced must be reviewed as a result of qualitative changes. Some commodities, however, are not suitable for the splicing technique because the underlying assumptions about quality differences do not apply or because the old and new prices are not available simultaneously in the replacement period. For commodities such as automobiles, household appliances, home furnishings, and clothing, for example, it is necessary to make a more direct assessment, based on cost analyses, of the impact of differences in quality on prices. In such cases manufacturers and merchandisers are consulted.

Price movements can also be imputed from one item to another in the same elementary group; for example, the price of skim milk is assumed to move at the same rate as that of homogenized milk, and therefore only one would be observed and any price change would be imputed to the other. Imputing is also used in a historical sense when a new product is added. For instance, when the new macaroni-based prepared dishes in the "partially prepared food" category were introduced in 1973, the price movement of packaged, uncooked macaroni between 1961 and 1971 was used as a historical proxy. This latter technique is referred to as "linking."(7) Splicing and linking procedures allow for maximum consistency in the "basket" of goods and services to be priced and therefore measure, as closely as possible, the "pure" price changes desired for the index.

#### A Particular Population Group

Between 1967 and 1978, the CPI target population for spending pattern data was expanded from the restrictive definitions of the earlier years to cover urban families living in private households ranging in size from two to six persons, with annual incomes in 1967 of \$4,000 to \$12,000. In this context "urban" referred to metropolitan centres with

populations of 30,000 and more, and the 1971 census showed that there were fifty-nine such centres for CPI calculations:

"For CPI purposes, 'urban centres' refers to Census Metropolitan Areas (CMAs), to Census Agglomerations (CAs) and to those incorporated cities not part of the CMAs and CAs; two exceptions are the Ottawa-Hull CMA, which has been split into two parts because of the provincial boundary, and the combination of Charlottetown and Summerside, which is considered a unit in order to provide an urban CPI for Prince Edward Island."(8)

Not all items are priced in all the urban centres. Separate CPIs are now published for fifteen centres each month.(9) A further eighteen centres have been included in the sampling for some time, though prices are monitored for only about three-quarters of the items covered in the fifteen cities' index.(10) In another group of eighteen centres, prices of about one-half the items covered in the fifteen cities' index are monitored, with concentration on food and rent.(11) And in a final group of eight centres price changes are observed only for rents and a few other items.(12)

"Family" for the Urban Family Expenditure survey is an expanded "economic family," as defined by Statistics Canada:

"The family or spending unit is defined as a group of persons dependent on a common or pooled income for the major items of expense and living in the same dwelling or one financially independent individual living alone. Never-married sons or daughters living with their parents are considered as part of their parents' spending unit. In the great majority of cases the members of spending units of two or more are related by blood, marriage or adoption and are thus consistent with the 'economic family' definition employed in surveys of consumer finance....It should be noted that according to the 'economic family' definition, unrelated persons living in the same household would be counted as unattached individuals, whereas in the expenditure survey it is possible for two or more unrelated persons to comprise one spending unit."(13)

With the revision of September 1978, the previous restrictions on family size (from two to six persons) and income (\$4,000 to \$12,000 in 1967) were dropped, which means that unattached individuals are now included. The concept of a "target population" has thus evolved into a measure of the total population in urban private households.

#### A Specified Time Period

Not only is the CPI expressed as an index above a base year figure, but each month it shows as a percentage increase over the previous month and over the same month in the preceding year. To find the current rate of change Statistics Canada uses a three-month moving average that



smooths out the peaks and valleys of the month-to-month changes in some prices and more closely mirrors the underlying trends. The three-month moving average is obtained by averaging the rate of change in the particular month in a period and the rates for the preceding and succeeding months. For example, the increase for June would be the average of the rate of price change in May, June, and July, and this would then be multiplied by 12 to get the annual rate of increase in the CPI in June.

Over time, four types of change in consumer prices can be observed:

- the long-term trend, which in post-war Canada has been gradually and smoothly upward;
- cyclical - that is, associated with the business cycle, which in Canada rises and falls over periods of between three and seven years; and which, when coupled with the long-term trend, gives an upward but uneven profile; and
- seasonal movements, both shorter and sharper than the cyclical.

"Shocks" that are irregular and often unpredictable - for example, strikes, crop failures, and OPEC oil price increases.

Statistics Canada does not quote seasonally adjusted figures for the Consumer Price Index. The agency has found that most people simply wish to know the current index and are not sufficiently interested in the underlying seasonality of the measurements. The use of a seasonally adjusted scale on a general basis is not, therefore, significant enough to outweigh the problems associated with its use - for example, the confusion when trying to make point-to-point comparisons.

However, approximately one-third of the items in the current CPI exhibit enough seasonal change to warrant adjustment before publication. In order to identify the seasonal factor, which is the only one for which separate figures are issued, the long-term trends and business-cycle movements are eliminated by a computer program, leaving only seasonal changes and "shocks" in the figures.(14) To be taken into account, seasonal effects must have appeared consistently at a particular time for a certain period, say three to five years. Examples of normal seasonal fluctuations would be the entry of Canadian produce into the market each summer, pre-Christmas retail buying, and January sales. Seasonal adjustment, therefore, eliminates these fluctuations in order to reveal the changes that result from other factors.

#### THE 1974 REVISION OF WEIGHTS

While the elimination of the family size and income restrictions in the October 1978 revision was an important change in the calculation of the CPI, a more fundamental alteration was the adjustment of weights for



various components to reflect the spending patterns established in the 1974 survey of Urban Family Expenditure. This resulted in some readjustment of the importance of some of the categories, since the previous CPI weights were based on the 1969 survey, which measured prices in 1967. Table 1 shows the relative importance in the "basket" of the major components in the old and new series.

Table 1

Comparison of 1967 and 1974 Expenditure Weights Used in the Consumer Price Index, by Major Component

	1974	1967
All items(a)	100.0	100.0
Food	21.5	24.8
Housing	34.1	31.4
Clothing	10.1	11.3
Transportation	15.8	15.2
Health and personal care	4.0	4.5
Recreation, reading, and education	8.3	6.9
Tobacco and alcohol	6.2	6.0

a Detail may not add to 100 per cent because of rounding.

Source Statistics Canada, The Consumer Price Index, Cat. 62-001, (February 1979), p. 19.

These weights represent 1974 quantities valued in 1974 prices and 1967 quantities valued in 1967 prices. The new indexes were "linked" to the old in September 1978 to ensure that the series remains conceptually equivalent over time. The base is still 1971 = 100 except for Charlottetown-Summerside, which was added in 1974 to the cities' index.

Table 1 shows that the proportion of total expenditures on food, clothing, and health and personal care, has diminished to varying degrees; the share of expenditures of the other component has increased.

A more detailed comparison appears in Table 2, which examines the old and new weights in terms of the old and new family size and income constraints in 1967, 1974, and September 1978 dollars. Statistics Canada cautions that only those values expressed in prices of the same period may be compared for the purpose of detecting the possible impact of quantitative changes between the 1967 and 1974 baskets on the all-items CPI for Canada.(16) Such a comparison in Table 2 is found in the "1967 basket in 1974 prices" and "1974 prices without constraints" categories. The comparison shows a greater decline for food, almost none for clothing, and health and personal care; a lesser increase for housing; and a greater increase for transportation; recreation, reading and education; and tobacco and alcohol than did the figures in Table 1, which were based on 1967 and 1974 dollars, respectively.

Table 2

Comparison of Weights of Major Components(a) of CPI, 1967 and 1974 Baskets, for the Urban Population, (b) with and without Family Size and Income Constraints,(c) Using 1967, 1974, and 1978 Prices

	Food	Housing	Clothing	Transportation	Health and personal care	Recreation, reading, and education	Tobacco and alcohol	All items
	(Per cent)							
Values of 1967 basket								
In 1967 prices, with constraints	24.80	31.39	11.27	15.18	4.51	6.89	5.96	100.0
In 1974 prices, with constraints	28.00	31.73	10.04	14.17	4.17	6.42	5.47	100.0
Values of 1974 basket								
In 1974 prices, with constraints	21.25	35.27	9.84	16.12	4.00	7.53	5.99	100.0
In 1974 prices, without constraints	21.49	34.06	10.12	15.84	3.96	8.29	6.24	100.0
In 1978 prices, without constraints	22.48	34.61	8.89	15.99	3.98	7.72	6.33	100.0

a The 1967 and 1974 baskets do not have the same classification by commodity groups. At the level of the major components, however, the differences in classification are negligible and do not affect the comparability of weights.

b Refers to private households living in Canadian urban centres with a population of 30,000 or more.

c With constraints means families from two to six persons with an annual income ranging in 1967 from \$4,000 to \$12,000. Without constraints means unattached individuals and families of any size, irrespective of income.

Source Based on Statistics Canada, The Consumer Price Index: Revision Based on 1974 Expenditures, Cat. 62-546 (Ottawa, 1978), Appendix IV.

## APPLICATION OF THE CONSUMER PRICE INDEX

The CPI is used widely as a guideline for negotiated wage increases and cost of living allowances (COLA) and for discretionary increases in wages, salaries, or fringe benefits. In addition, legislation frequently ties increases in payments or exemptions in government programs specifically to the Consumer Price Index in order to preserve their "real" value. Some examples include the Income Tax Act, which allows for the indexing of personal exemptions according to the CPI; War Veteran's Allowances and the Old Age Security program (which includes the Guaranteed Income Supplement and Spouse's Allowance) escalate their payments every quarter (January, April, July, October) for changes in the CPI; Canada Pension Plan benefits are increased each January to reflect CPI increases, as are payments of Family Allowances and other federal pension benefits.(17) In some cases legislation simply provides authority for increased payments based on the cost of living, without defining cost of living or its measurement,(18) and in other cases reference to the CPI might be made from time to time for the purpose of escalating premiums or benefits, without requiring any legislative authority for such increases.(19)

## THE CPI AND PENSIONERS

Since the two tiers of government pensions (OAS/GIS and CPP) are now tied to the CPI, its importance as a measurement is obvious. But frequent calls have been heard for the development of a "pensioner index" which, it is argued, would be more relevant as a guide for the escalation of pension benefits. Before developing a new index based on pensioners' spending habits it is important to see if those spending habits differ from those of the rest of the population, and if so, how; and to examine those components of the CPI "basket" that absorb the greatest share of pensioners' incomes to see if they have increased or decreased differently from the whole "basket."

The latest CPI revision, which eliminated the restrictions on family size and income, means that the overall target population represents the retired more closely than the earlier measure. We know, for example, from the 1971 census which is the basis for the selection of the urban centres for CPI purposes that the older population was "urban" to about the same extent as the total population. Table 3 shows us that in 1971, 58.5 per cent of the total population and 54.8 per cent of the population 65 and over lived in the urban target areas with 30,000 or more persons.

We also know from census figures that older women fall largely into the "single, widowed, and divorced" categories and that the elimination of the family size restrictions will increase the pertinence of the survey to that older single female population who are at the lower end of the income scale. For purposes of comparison, figures for 1971, on which



the 1974 Expenditure Survey was based, are contrasted with comparable data for 1976 in Table 4.

Table 3

Urban and Rural Residence by Size of Centre, for Total Population and Population 65 and Over, 1971

	Total population	65 and over
	(Per cent)	
Urban	76.1	75.7
100,000 and over	47.5	46.1
30,000 to 99,999	9.0	8.7
10,000 to 29,999	8.1	7.8
Less than 10,000	11.5	13.1
Rural	23.9	24.3
Farm	6.6	4.7
Non-farm	17.3	19.6
Total	100.0	100.0

Source Statistics Canada, Perspective Canada II, Cat. 11-508, p. 43, Table 3.6.

Table 4

Population by Age Group and Sex, 1971 and 1976

	Married	Single	Widowed	Divorced
	(Per cent)			
1971				
Male				
15-64	64.1	34.0	0.9	1.0
65 and over	71.8	10.6	16.7	0.9
Female				
15-64	67.4	27.0	4.2	1.4
65 and over	39.2	10.7	49.4	0.7
1976				
Male				
15-64	63.9	33.9	0.7	1.4
65 and over	73.8	9.5	15.2	1.2
Female				
15-64	67.1	26.7	3.9	2.3
65 and over	38.9	10.2	49.8	1.0

Source Statistics Canada, Census of Canada, 1971, Cat. 92-730, Vol. 1.4; and Census of Canada, 1976, Cat. 92-825, Vol. 2.

While not all unmarried people live in single-person households, the extension of the definition of family could incorporate up to 28 per

cent of the senior men and 60 per cent of the senior women. The widened definition of family now covers virtually all but the nursing home population. Table 5 shows the living arrangements of the senior population and indicates that a sizeable proportion of the older females live alone.

Table 5  
Living Arrangements of Persons 65 and Over by Sex, 1971

	Male	Female
	(Per cent)	
Living in a family(a)	74.1	53.5
Own family or group(b)	8.1	12.7
Total family	82.2	66.2
Living alone(c)	11.1	24.6
Living in collective housing(d)	6.7	9.2
Total	100.0	100.0

a The family in this case is the "economic family."

b Includes persons living with economic families of which they are not a member and persons sharing the household with other non-family persons.

c Does not include persons living alone in collective housing.

d Includes persons living in hotels, motels, nursing homes, staff residences, military and lodging houses, and other institutions.

Source Statistics Canada, Perspective Canada II, Cat. 11-508, Table 3.10, p. 45.

More critical than the family size definition, however, is the former limitation to families "with \$4,000 to \$12,000 income in 1967" - the middle-income group. Income distribution figures indicate that incomes of the senior population are below the average for all age groups (Table 6). The removal of the income limitations has, therefore, eliminated the bias against lower-income families that would have excluded many of those 65 and over.

Table 6  
Average Family Income for All Families and for Those Headed by Persons 65 and Over, 1967-76

	All families	Families 65 and over
	(Dollars)	
1967	7,702	5,211
1976	19,000	11,848

Source Statistics Canada, Income Distributions by Size in Canada, 1967, Cat. 13-534, p. 21, Table 4; and Income Distributions by Size in Canada, 1976, Cat. 13-207, p. 40, Table 4.

In summary, the new definition of urban families included in the Expenditure Survey means that the population surveyed is as relevant to those 65 and over as to the whole population. Once we are satisfied that the sample is not biased against seniors, we must examine how their spending patterns compare with those of the population as a whole.

### Spending Patterns

The 1974 survey, which forms the basis of the new CPI measurement, shows the proportion of budget spent on the major items in the survey by the total population and those 65 and over without the old family size and income constraints (Table 7).

From Table 7 it is clear that the population 65 and over spends a substantially larger proportion of income on food and shelter than does the general population. Medical and health care costs take marginally more of seniors' incomes. Whether the differences in food, shelter, and transportation costs warrant a separate index for pensioners is questionable.

The senior population may well be spending less money on food than their younger counterparts, but because of their lower average incomes it absorbs a higher percentage of their budget. In addition, the food is consumed predominantly at home, with "food and beverages in eating places" absorbing an average of \$4.64 per week for the older families against \$11.67 for families headed by someone under 45, and \$2.57 for unattached individuals 65 and over compared with \$10.43 for those under 45.(20) Buying habits show that the diet of the senior population includes large amounts of not very nutritious food, such as cookies, cakes, soft drinks, candy, gum, and marshmallows. Choices in buying are not, therefore, made solely on the basis of financial resources, since many of the above items are higher priced than some that would provide proper nutrition.

With the revision of weights between the 1967 and 1974 surveys, the amount spent by all groups on "food" decreased from 28 per cent to 21.5 per cent of the "basket" in 1974 prices (see Table 2). Statistics Canada continued to measure the CPI from 1974 to 1978 according to the "old" series for purposes of comparison and found that the "new" series yields a slightly lower index than the old over that period. The explanation is that expenditures on food, which tended to rise more rapidly than those on non-food items over the period, absorbed a smaller proportion of the basket and therefore had less effect on the "new" measurements.

"During the period under consideration, however, food prices were not constantly rising at a higher rate than other prices and, therefore, the divergence between the two All-items consumer price index series was not cumulating consistently through time. The divergence increased in 1975 up to the month of June, then remained stable up to November of that year. From December 1975 to April



Table 7

Proportion of Budget Spent, by All Families and Unattached Individuals and All Families and Individuals 65 and Over, by Item, 1974

	All	65 and over
	(Per cent)	
Food	17.2	22.2(a)
Shelter	15.0	21.5(a)
Rented	5.5	9.6(a)
Owned	6.4	6.9(a)
Other	.7	.7
Water and fuel	2.4	4.2(a)
Household operation	3.7	4.7(a)
Furniture and equipment	4.9	3.9
Household appliances	1.1	.8
Other	3.8	3.1
Clothing	7.1	5.9
Personal care	1.7	2.0(a)
Medical and health care	2.1	2.8(a)
Smoking and alcohol	3.4	2.9
Travel and transportation	12.2	9.5
Automobile	9.5	7.0
Purchase	4.5	3.1
Operation	5.0	3.9
Other	2.7	3.5(a)
Recreation	3.9	3.5
Reading	.6	.8(a)
Education	.8	.1
Miscellaneous	2.1	1.6
Total current	74.5	81.5(a)
Personal taxes	18.4	11.6
Security	5.0	2.3
Gifts and contributions	2.1	4.6(a)
Total expenditure	100.0	100.0

a Items on which the senior population spends a greater proportion than the general population.

Source Statistics Canada, Urban Family Expenditure, 1975, Cat. 62-544, pp. 14-15, Table 7.

1976 the divergence decreased to the point that it totally disappeared in April 1976, and then remained at a very low level up to January 1977 (during that time, food prices were rising at a rate similar to or lower than those for non-food prices). From January 1977 to July 1978 the divergence grew rapidly but this latter tendency was again reversed in August and September 1978. In September

1978 the All-items index of the "new" series was 138.4, whereas the corresponding index of the previous series was 142.0. This represented a difference of 2.6 per cent, accumulated over a period of almost five full years."(21)

In other words, the indexed portion of the senior population's income rose higher because of price increases in non-food items than it would had the CPI been based on food alone. Statistics Canada also noted that:

"For Food, the 'new' series indexes are higher than those of the previous series up to the end of 1977 [emphasis author's]. This ...may be explained to a large degree by a combination of the following factors:

- among food products, meat (in particular beef) had a relatively larger share in the 1967 basket than in the 1974 basket, while the reverse was true with respect to Food away from home;
- meat prices (in particular, beef prices) rose less than the overall Food price index between January 1977 and the end of that year, while the reverse was observed with respect to prices for Food away from home."(22)

Since "food away from home" is a much smaller budget item for the over 65 than for the younger population, its heavier weight in the new "basket" means that much of the contributing factor to the rise in food prices does not significantly affect those 65 and over. The relevance of a "food only" index for pensioners, given its decreased importance in the whole "basket" for pensioners, would, therefore, be questionable.

Between those 65 and over and the rest of the population, the disparity in the percentage of their budget spent on shelter is even greater than it is for food. The greatest divergence is in the "rent" portion even though rents have risen less quickly than have some of the costs of home ownership. The weights in the new CPI basket for tenancy costs fell from 8.40 to 6.76 while home ownership costs increased from 9.48 to 11.90. This is explained by the differing rates at which the components of the shelter portion have increased in price. For example, from January 1971 to December 1977, on the basis of 1971 average = 100, the index for some items showed the following increases:

	<u>January 1971</u>	<u>December 1977</u>
Mortgage interest	96.4	206.2
Property tax	99.9	151.8
New houses	96.4	185.9
Rent	99.4	129.8(23)

Both renters and owners in the over 65 age group have been somewhat protected from the rise in some of the shelter costs. The program of rent control and review introduced in 1975 in Ontario has slowed rental increases for the 30 per cent of senior household heads who rent their accommodations. Those who own are primarily not recent purchasers of homes and therefore are not faced with the escalating purchase prices. Few of them have mortgages (7.3 per cent of family heads in Ontario 65 and over) and if they do they have lived in their homes for longer periods than the younger population (59.5 per cent have lived there for more than 10 years, as against 32.9 per cent for all household heads in Ontario) and consequently any mortgage is likely to have been negotiated in the days of lower interest rates.(24)

Table 7 shows that household operation absorbs a slightly higher percentage of the budget of the population 65 and over than of the younger groups. Without knowing behaviour patterns it is difficult to identify the reasons for the increased proportion of budget, though one might hypothesize that older people must pay for some services, such as snow-shovelling or installation of storm windows, that younger people perform for themselves.

Transportation costs in general and "automobile" costs in particular are lower for those 65 and over than for the general population. However, there is a small difference in the "other transportation" category that might reflect the need to take taxis or pay for public transportation. Discounts are provided on public transportation, but increased usage at half fare might still produce a higher cost, when coupled with taxis, than full fare expenses for the younger persons in our car-dominated society. Older people can also take advantage of reduced fares on trains, buses, and airlines to travel for pleasure to a greater extent than the younger population. The divergence in spending patterns is not sufficiently great to jeopardize the relevance of the CPI to the target population.

A further item - gifts and contributions - should be considered in this discussion of spending patterns. While this category absorbs only 4.6 per cent of the senior's budget, that is more than double the figure for the total population (2.1 per cent) and is greater than the portion spent by seniors on some necessities and recreation. In other words, what the population 65 and over chooses to spend its money on still allows for these discretionary expenditures that could be transferred to food, housing, or clothing if need be. Such a decision may have less to do with available financial resources than with social pressures, but it suggests that for some at least, there is room in the budget for extras.

Only in two major sectors, therefore - food and shelter - are there appreciable differences in spending patterns, and the arguments for a separate CPI based on these divergences are not convincing.



## Income Levels

Spending patterns for many in the 65 and over group resemble those of low-income groups, particularly in the food component. Table 8 compares spending of low-income families and unattached individuals with low incomes with that of the 65 and over group.

Table 8

Proportion of Budget Spent by Item, for Families and Unattached Individuals 65 and Over, and Low-Income Families and Unattached Individuals, 1974

	Families and unattached individuals 65 and over	Unattached individuals Low income	Families of two or more Low income
	(Per cent)		
Food	22.2	28.4	30.9
Shelter	21.5	33.4	23.4
Rented	9.6	24.7	14.2
Owned	6.9	4.5	4.4
Other	.7	.2	.3
Water and fuel	4.2	4.0	4.5
Household operation	4.7	5.4	5.2
Furniture and equipment	3.9	3.3	4.6
Household appliances	.8	.5	1.3
Other	3.1	2.9	3.3
Clothing	5.9	5.5	7.2
Personal care	2.0	2.1	2.2
Medical and health care	2.8	2.5	2.5
Smoking and alcohol	2.9	3.9	4.0
Travel and transportation	9.5	4.9	7.8
Automobile	7.0	1.7	5.2
Purchase	3.1	.6	1.9
Operation	3.9	1.2	3.2
Other	3.5	3.1	2.6
Recreation	3.5	3.2	3.0
Reading	.8	.9	.7
Education	.1	.5	.7
Miscellaneous	1.6	1.3	2.2
Total current	81.5	95.3	94.4
Personal taxes	11.6	1.0	2.6
Security	2.3	.5	1.5
Gifts and contributions	4.6	3.2	1.5
Total expenditure	100.0	100.0	100.0

Source Statistics Canada, Urban Family Expenditure, 1974, Cat. 62-544, pp. 14, 15, and 174.

We know from income studies that those 65 and over are represented disproportionately in low-income groups, and particularly in the unattached individuals category. Figures for 1976 show that family heads

and unattached individuals aged 65 to 69 comprised 5.9 per cent of the total population, but 10.7 per cent of the lowest income quintile, and 8.8 per cent of the second quintile; those 70 and over comprise 11.1 per cent of the total, but 31.2 per cent of the lowest and 15.1 per cent of the second quintile.(25) We must therefore expect that many of the same people will figure in the "65 and over" and the two "low income" columns of Table 8, emphasizing the distortion in spending patterns.

Based on these figures we might conjecture that what sets the older population apart from the rest, in relation to the CPI, is not their age but rather their income level. We should then ask ourselves if, rather than designing a "pensioner index" as a solution to the maintenance of purchasing power for the retired, a "low-income" index would be more appropriate. Studies that have explored such an option have concluded that it would not.

A study prepared by Statistics Canada reweighted components based on the 1969 Family Expenditure Survey and prepared a comparative CPI for low-income families. The resulting figures are shown in Table 9.

The study found that the official CPI over the period from June 1973 to June 1977 (that is, following the serious dislocation of expenditures resulting from the OPEC oil price increases) was higher than the low-income index (Table 10).

The study advanced the following explanation:

"Two features of the above comparison deserve particular attention because of their impact on the overall difference between the two consumer price indexes:

- low-income families spend considerably more on food than do members of the CPI target group, as a percentage of their total expenditures (and therefore food price movements have a greater impact on the low-income series than on the official CPI).
- within the shelter component of housing, tenancy is more important to low-income families than home ownership while the reverse is true for the official target group."(26)

While the size of the low-income family as defined for the study is larger than an older household would be and consequently could profit from some economies of scale in expenditures, food and housing components of the CPI affect both low-income and senior households differently from the rest of the population. Both low-income and senior households are disproportionately hit by food price increases, particularly for food to be consumed at home. The results of the low-income CPI study, therefore, are of interest to those who are concerned about the older population.

Table 9  
Expenditure Weights for CPI Target Group and Low-Income Families

	Low-income families (1969 quantities, April 1973 prices)(a)	CPI target group (1967 quantities, April 1973 prices)(a)
	(Per cent)	
All-items	100.0	100.0
Food	31.6	26.3
Housing	33.7	32.5
Shelter	20.4	19.9
Tenancy	12.1	7.8
Home ownership	8.3	12.1
Household operation	13.3	12.6
Other major components	34.7	41.2
Clothing	9.4	10.2
Transportation	11.1	14.3
Health and personal care	4.1	4.3
Recreation, education, and reading	5.4	6.6
Tobacco and alcohol	4.7	5.8

a Comparison of the experimental consumer price index for low-income families (1969-weighted) with the official CPI (1967-weighted) may only be made for the period from April 1973 forward, since the 1967 weights were introduced as of that date. For the purpose of computing arithmetic averages of price indexes with an April 1973 time base, then, it is proper to use weights expressed in prices of April 1973.

Source Gordon Walford, "Experimental Study: A Consumer Price Index for Low-Income Families," Canadian Statistical Review, Cat. 11-003 (April 1978), p. x, Table 1.



Table 10

Comparison of CPIs for Official Target Group and Low-Income Families,  
June 1977

	Official target group(a)	Low-income families
	(April 1973 = 100)	
All items	145.2	143.8
Food	150.6	149.6
Housing	147.0	143.1
Shelter	142.1	135.9
Tenancy	123.6	123.6
Home ownership	154.1	154.0
Household operation	154.7	154.2
Other major components(b)	140.2(c)	139.3
All items except food	143.2	141.2
All items except housing	144.3(c)	144.2

a Rebased from official CPI series.

b Includes clothing; transportation; health and personal care; recreation, education and reading; and tobacco and alcohol.

c Official target group rebased and aggregated from official CPI.

Source Gordon Walford, "Experimental Study: A Consumer Price Index for Low-Income Families," Canadian Statistical Review, Cat. 11-003 (April 1978), P. xii.

A discussion of the relevance of the CPI to certain groups also figured in the Economic Council of Canada's Eleventh Annual Review. The Council was commenting in 1974, before the new weights were introduced, when it stated:

"Demands for greater selectivity in the choice of index might appear to be appropriate if changes in the consumer price index were found to deviate substantially from the actual price-change experiences of different groups - whether classified according to their incomes for tax purposes or by demographic or social characteristics."(27)

The Council measured several specially weighted baskets for families of two or more of varying income levels and found that the impact of price increases did not correlate with income level in any meaningful way (Table 11).

In discussing the role of any index, the Council wrote:

"...it is appropriate to consider whether the purpose of indexation schemes is to compensate individuals and groups for the loss of general purchasing power arising from inflation, or whether it is to protect, indefinitely, their particular initial real living

standards. If it is the latter, since relative price changes are always taking place - for example, because of different rates of productivity growth in different industries - a case would exist for tying particular categories of income to particular price indexes in order to preserve the real incomes of those involved, even in a situation of zero inflation. If, on the other hand, the purpose of indexation is to compensate for general inflation, then it appears most appropriate to employ a general index (such as the consumer price index) for this purpose. Clearly, many other schemes and programs are designed to preserve, modify, or improve the real living standards of particular income groups. It appears to us, however, that indexation is best directed towards the primary aim of compensating individuals for those losses of general purchasing power arising from inflation. Even a highly complex system of special indexes for particular groups would still give rise to anomalies and imperfections if the objective were to prevent each individual's initial real income from changing as a result of price variations. Apart from being administratively costly, special indexes might also introduce undesirable rigidities into our social and economic relationships."(28)

Table 11

Consumer Price Index, by Income Class, All Families or Two or More Persons, 1969 and 1974

	Index	
	January 1969	April 1974
	(1961 = 100)	
Under \$3,000	121.8	162.7
\$ 3,000-\$3,999	121.7	161.2
4,000- 4,999	121.4	160.6
5,000- 5,999	121.5	160.0
6,000- 6,999	121.5	159.9
7,000- 7,999	124.4	163.8
8,000- 8,999	121.7	160.3
9,000- 9,999	122.2	161.4
10,000-10,999	122.2	160.6
11,000-11,999	122.0	160.5
12,000-14,999	122.0	160.3
15,000 or over	122.6	161.4
CPI	122.6	161.9

Source Economic Council of Canada, Eleventh Annual Review: Economic Targets and Social Indicators, (Ottawa: Information Canada, 1974), Table 7-4.

Another study that examined the pertinence of special indexes for various income, demographic, or geographic groups was that carried out by the Policy Research and Strategic Planning Division of the Department

of National Health and Welfare. The study, originally based on the 1969 consumer expenditure patterns was re-examined in the light of the changes in spending patterns registered in the 1974 survey. The conclusion remained the same:

"...welfare and pension benefits would not be significantly different if they were escalated according to price indexes based on the expenditure patterns of the specific income/demographic groups instead of the overall Consumer Price Index."(29)

The study examined price movements over the 1966-77 period inclusive based on 1969 and 1974 weights for different income groups. In both cases two sets of measurements were taken: one based on the seven major categories in CPI (food; housing; clothing; transportation; medical and personal care; reading, recreation and education; tobacco and alcohol), and the second based on twenty-eight fine categories within these seven groups.

The results of the study bear out the findings of the two previous papers in the matter of food and housing costs and their impact on different income groups. In the former category, consumption of "restaurant foods" which increased faster than that of most other food items, had a disproportionate impact on the high-income group who spend more on this item (5.4 per cent of budget) than the middle-or low-income groups (3.4 and 3.0 per cent, respectively), based on 1969 weights. In the latter category, rent assumed a greater proportion of the low-income budget (12.9 per cent) than the middle-income (8.2 per cent) or the high-income (3.3 per cent) budget and consequently the low-income group has been protected, since rent rose more slowly than home ownership costs over the 1966-77 period. In the study based on 1969 weights, three income levels were used; in the study on 1974 weights, four. Table 12 shows the results of the study using the twenty-eight-category list of items for measurement.

The 1969 weights show that the low-income index exceeded the CPI in 1966, 1970, and 1972-77, but by a maximum of .7. Contrast this with the high-income index which was greater than CPI in every year and by as much as 4.1 in 1977. Based on the 1974 weights, only in 1973 did the low-income index exceed the CPI, and that by .3, whereas again the high-income group was higher every year, by as much as 8.2 in 1977. Rather than penalizing the lower income groups, the CPI presently in use has greater impact on the highest group in both parts of the study. This supports the view expressed previously that low-income groups, and therefore pensioners, are as well off under CPI as they would be under a more selective price index, when the aim of the indexing is to maintain their purchasing power.

The United Kingdom has a pensioners' index that differs from the General Index and relates to about 10 per cent of households measured. However, it has been observed that:



Table 12

New Consumer Price Index, by Income Group, Based on the 28-Category Disaggregation, Using 1969 and 1974 Expenditure Weights, 1966-67

	1969			1974				
	\$3,000	\$7,000-8,000	\$15,000 and over	\$4,000 (1961 = 100)	\$7,000-8,000	\$10,000-12,000	\$20,000 and over	CPI
1966	111.5(a)	111.2	111.5(a)	111.3	110.9	111.1	111.8(a)	111.4
1967	115.3	115.2	116.0(a)	114.9	114.7	115.1	116.1(a)	115.4
1968	120.0	119.8	120.8(a)	119.8	119.3	119.7	120.8(a)	120.1
1969	125.5	125.3	126.5(a)	125.4	124.7	125.2	126.7(a)	125.5
1970	129.8(a)	129.8(a)	131.4(a)	129.7	128.8	129.6	131.6(a)	129.7
1971	133.3	133.5(a)	135.9(a)	133.1	132.2	133.4	136.2(a)	133.4
1972	139.9(a)	139.7	142.1(a)	139.6	138.3	139.6	142.9(a)	139.8
1973	151.0(a)	149.9	152.2(a)	150.6(a)	148.4	149.9	153.8(a)	150.3
1974	167.3(a)	166.2	168.7(a)	166.5	164.0	166.1	170.9(a)	166.8
1975	185.5(a)	184.3	187.1(a)	184.4	181.7	184.2	189.9(a)	184.8
1976	198.8(a)	198.2	202.5(a)	197.3	194.7	198.2	205.8(a)	198.6
1977	215.1(a)	214.0	218.6(a)	213.6	210.2	214.1	222.7(a)	214.5

a Those values higher than CPI for the year, for the low-income group.

Source Mangal Gupta, The Impact of Price Changes on Different Income Groups, Health and Welfare Canada, Occasional Paper 4 (Ottawa, 1978), pp. 25-6.

"Although there are substantial differences between the weights of the 'pensioner' indices and those of the General Index this does not seem to have had a very great effect on the relative movements of the indices. The one person 'pensioner' index for example has increased only 1 1/2 per cent more than the General Index (excluding housing) in the period from January 1974."(30)

This practical example bears out the results of the Canadian studies.

## CONCLUSION

We have seen that the Consumer Price Index is general in nature and has become progressively more so over time because of the widening of the target population and the range of items to be measured. By common consent, when applying standards of measurement to any particular segment of the population it is wiser to choose a standard which is representative of a wider rather than a more restrictive population. In this context the CPI is the most general measurement available and, as we have seen, the latest revision has extended its application, thereby increasing its relevance to the pensioner population. It is also a measurement that has wide recognition in Canadian society and, rightly or wrongly, is considered a yardstick for changes in the cost of living. Recognition and acceptability therefore argue for its use.

In the long run CPI could be considered the "least worst" measurement for purposes of increasing pensions and other welfare payments; the three studies we examined have not produced a more reliable measurement. On the contrary, they have tended to reinforce the validity of CPI as a basis for indexation. Since the stated purpose of pension escalation is the maintenance of purchasing power, CPI is the best tool we have available in Canada at the present on which to base the increases.

## NOTES

- (1) Throughout this paper reference is made to, and material is drawn from Statistics Canada, The Consumer Price Index: Revision Based on 1974 Expenditures: Concepts and Procedures, Cat. 62-546 (Ottawa, 1979).
- (2) Statistics Act, 1918, c. 43, s. 1.
- (3) Statistics Canada, The Consumer Price Index Revision, p. 8.
- (4) Statistics Canada, Your Guide to the Consumer Price Index, p. 7.
- (5) Statistics Canada, The Consumer Price Index Revision, p. 31.
- (6) "Splicing technique - One of the procedures used for maintaining the continuity of item price index series in the case of substituted items (and/or replaced retail outlets). The basic assumption underlying the technique is that, at a given point in time, the relative difference in prices between the replaced and replacing items (and/or outlets) reflects the difference in respective qualities. In effect, the splicing technique is analagous to, and may be considered a particular case of, the linking procedures." Ibid., Glossary, p. 61.
- (7) "Linking procedure - A procedure by which a 'new' series of indexes is connected to an 'old' series in a given link period, generally because of a change in baskets. Actually, indexes of the 'new' series with link period as time base are multiplied by the 'old' index for the link period." Ibid., p. 60.
- (8) "The 1971 Census of Canada defines CMAs and CAs as main labour market areas of continuously built-up centres with populations of 100,000 and over and less than 100,000 respectively. CMAs and CAs therefore include urban core, urban fringe and rural fringe parts." Ibid., p. 25.
- (9) The centres are: St. John's, Halifax, Charlottetown/Summerside, Saint John, Montreal, Quebec, Ottawa, Toronto, Thunder Bay, Winnipeg, Regina, Saskatoon, Edmonton, Calgary, and Vancouver.
- (10) These centres are: Sydney, Moncton, Sherbrooke, Trois-Rivieres, Chicoutimi-Jonquiere, Hull, Kingston, Peterborough, Oshawa, Hamilton, Kitchener-Waterloo, St. Catharines-Welland-Niagara, London, Windsor, Sarnia, Sault Ste. Marie, Sudbury, and Victoria.
- (11) This group comprises: Sydney Mines, Fredericton, Granby, Drummondville, Sorel, St. Jerome, Shawinigan, Cornwall, Belleville, Barrie, Timmins, North Bay, Brandon, Chilliwack, Nanaimo, Kelowna, Kamloops, and Prince George.
- (12) These cities are: St. Hyacinthe, St. Jean, Valleyfield, Brantford, Chatham, Guelph, Moose Jaw, and Lethbridge.
- (13) Statistics Canada, Urban Family Expenditure, 1974, Cat. 62-544, p. xv.



- (14) A description of the formula for eliminating the trends and business cycle components of change can be found in Statistics Canada, Consumer Prices and Price Indexes, Cat. 62-010, quarterly.
- (15) Those items exhibiting sufficient seasonality to warrant adjustment are listed in Consumer Prices and Price Indexes.
- (16) Statistics Canada, The Consumer Price Index Revision, p. 56.
- (17) The Income Tax Act, R.S.C. 1970, c. 148, as amended 1976-77, c. 4, S.48(1) and S.117.1; War Veterans' Allowance Act, R.S.C. 1970, c. W-5; The Old Age Security Act, R.S.C. 1970, c. 0-6 as amended 1976-77, c. 9; Canada Pension Plan, R.S.C. 1970, as amended 1974-75-76; Family Allowances Act 1973, c. 44; and pensions such as those for members of Parliament, public servants and members of the armed forces.
- (18) For example the Teachers' Superannuation Act, R.S.O. 1970.
- (19) Benefits under the Unemployment Insurance Act 1971, R.S.C. 1970-71-72 c. 48 are escalated periodically, linked to rises in the Consumer Price Index.
- (20) Statistics Canada, Urban Family Food Expenditure, 1974, Cat. 62-542, pp. 14-15, Table 7.
- (21) Statistics Canada, The Consumer Price Index Revision, p. 57.
- (22) Ibid.
- (23) Statistics Canada, Consumer Prices and Price Indexes, Cat. 62-010.
- (24) Statistics Canada, 1971 Census of Canada, Cat. 93-739, Vol. 2, Part 4, Tables 35 and 37.
- (25) Statistics Canada, Income Distributions by Size in Canada, 1976, p. 92.
- (26) Gordon Walford, "Experimental Study: A Consumer Price Index for Low-Income Families," Canadian Statistical Review (April 1978), p. x. Low-income families for this study are defined as urban "families of two adults with one or more children and incomes in 1969 of less than \$6,000."
- (27) Economic Council of Canada, Eleventh Annual Review; Economic Targets and Social Indicators (Ottawa, Information Canada, 1974), p. 171.
- (28) Ibid., p. 174.
- (29) Mangal Gupta, The Impact of Price Changes on Different Income Groups, Health and Welfare Canada, Occasional Paper 4 (Ottawa, 1978), p. 21.
- (30) Letter to the Royal Commission from the office of the Parliamentary Under Secretary of State, Department of Employment, Government of the United Kingdom, June 13, 1978, p. 2.







